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FILE 'REGISTRY' ENTERED AT 15:32:43 ON 24 JUN 2003
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DICTIONARY FILE UPDATES:  23 JUN 2003  HIGHEST RN 536496-82-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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FILE COVERS 1907 - 24 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 23 Jun 2003  (20030623/ED)

  This file contains CAS Registry Numbers for easy and accurate
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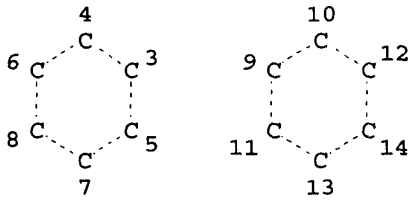

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DEFAULT ECLEVEL IS LIMITED

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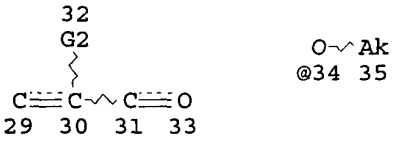

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STEREO ATTRIBUTES: NONE

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L7		SCR 1054
L8		SCR 1153
L12		SCR 1015
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L15	26097	SEA FILE=CAPLUS ABB=ON PLU=ON L14
L16	16	SEA FILE=CAPLUS ABB=ON PLU=ON L15(L)FILM(4A)RETARD?
L17	2807	SEA FILE=CAPLUS ABB=ON PLU=ON L15(L)LIQ?(4A)CRYSTAL?
L18	1399	SEA FILE=CAPLUS ABB=ON PLU=ON L17 AND (SPN OR PREP OR IMF)/RL
L19	54	SEA FILE=CAPLUS ABB=ON PLU=ON L18 AND PHOTOSENS?
L20	395	SEA FILE=CAPLUS ABB=ON PLU=ON L18 AND ?FILM?
L21	421	SEA FILE=CAPLUS ABB=ON PLU=ON L19 OR L20

L24 28 SEA FILE=CAPLUS ABB=ON PLU=ON L21 AND ?FILM? AND PHOTOSENS? AND LIQ?(3A)CRYSTAL?
L25 44 SEA FILE=CAPLUS ABB=ON PLU=ON L24 OR L16

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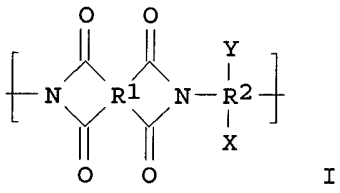
L25 ANSWER 1 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:353731 CAPLUS
DOCUMENT NUMBER: 138:376394
TITLE: Polyimide-based photosensitive resin compositions containing fireproofing agents and flame-retardant dry-film resists using the compositions
INVENTOR(S): Takakawara, Kaoru; Okada, Yoshifumi
PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003131371	A2	20030509	JP 2001-325927	20011024

PRIORITY APPLN. INFO.: JP 2001-325927 20011024
GI



I

AB The resin compns. contain (A) sol. polyimides having .gtoreq.1 repeating unit I [R1 = tetravalent org. group; R2 = arom. ring-contg. 3- or 4-valent group; X, Y = org. group; X and/or Y = R3CH:CH2 (R3 = divalent org. group)], (B) compds. having P, halo, or siloxane moiety via a conjugated bond, (C) (meth)acrylic compds. having .gtoreq.1 C-C double bond, and optionally (D) photoinitiators and/or sensitizers. Also claimed are photosensitive dry-film resists, useful as cover-lay films for flexible printed circuit boards, hard disk head, etc., prepd. using the compns. The resin compns. have good workability, alkali developability, and show no warp when laminated with a polyimide film.

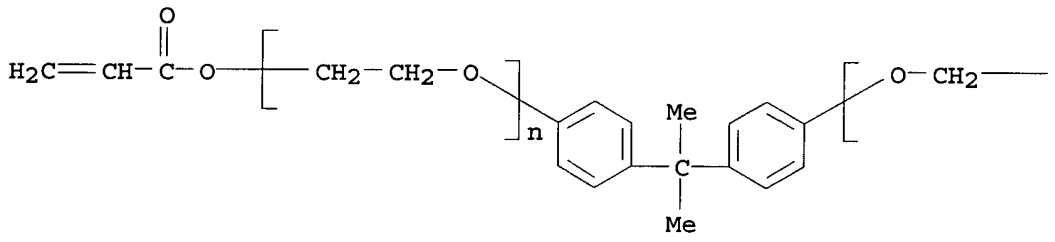
IT **64401-02-1**, NK Ester A-BPE 30
RL: TEM (Technical or engineered material use); USES (Uses)
(Aronix M 211B; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-

retardant dry-**film** resists)

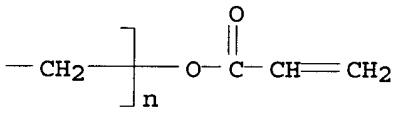
RN 64401-02-1 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[(1-methylethylidene)di-4,1-phenylene]bis[.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03F007-027
ICS C08F290-14; C08G073-10; G03F007-004; G11B005-60; G11B021-21; H05K003-00; H05K003-28

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST polyimide methacrylic monomer photoresist phosphorus fireproofing agent; dry film resist flame retardant polyimide acrylate compn

IT Magnetic recording heads
(cover-lay film for; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(di-Me, Me Ph, KF 56, fireproofing agent; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT Printed circuit boards
(flexible, cover-lay film for; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(hydroxy-contg., KR 211, fireproofing agent; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing

agents for flame-retardant dry-film resists)

IT Fireproofing agents
(photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT Polyimides, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT **64401-02-1**, NK Ester A-BPE 30
RL: TEM (Technical or engineered material use); USES (Uses)
(Aronix M 211B; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-**retardant** dry-**film** resists)

IT 7347-19-5, BR 31
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(BR 31, fireproofing agent; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT 67006-39-7, BR 42M
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(BR 42M, fireproofing agent; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT 115-86-6, Triphenyl phosphate 19186-97-1, CR 900
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fireproofing agent; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT 1309-64-4, Antimony trioxide, uses 1314-60-9, Antimony pentoxide 124365-15-7, Sunepoch NA 4800
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fireproofing aid; photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

IT 106-91-2DP, Glycidyl methacrylate, reaction products with diaminobenzoic acid-bisphthalic dianhydride copolymer 155420-78-3P, 3,5-Diaminobenzoic acid-hexafluoroisopropylidene-2,2-diphthalic anhydride copolymer ester with 2-hydroxyethylvinyl ether 156620-45-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin compns. contg. sol. polyimides, (meth)acrylic compds., and fireproofing agents for flame-retardant dry-film resists)

L25 ANSWER 2 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:199770 CAPLUS
TITLE: Synthesis and characterization of a new polyurethane-based photo-alignment layer polymer for

liquid crystal displays

AUTHOR(S): Yu, Haifeng; Jiang, Hongzhou; Lian, Yanqing; Wang, Xiaogong; Liu, Desban

CORPORATE SOURCE: Department of Chemical Engineering, School of Materials Science and Engineering, Tsinghua University, Beijing, 100084, Peop. Rep. China

SOURCE: Gaofenzi Xuebao (2003), (1), 133-138
CODEN: GAXUE9; ISSN: 1000-3304

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A diol 1,3-di(2-hydroxyethyl) 5-hydroxyl isophthalate (DHHI) was synthesized through the nucleus substitution reaction of 5-hydroxyl isophthalic acid (HIA). The monomer was characterized by 1H-NMR, FTIR, elemental anal. and differential scanning calorimetry (DSC). Then a precursor polymer (PU-OH) contg. hydroxyl groups was prepd. by step polymn. of DHHI and 4,4'-diphenylmethane diisocyanate (MDI). By PU-OH's functionalization with cinnamoyl chloride, a polyurethane (PU) with cinnamate side-groups (PU-CI) was obtained. The polymers synthesized were characterized with 1H-NMR, DSC, IR spectroscopy and elemental anal. The **photosensitive** polymer PU-CI was found to be crosslinked under the irradn. of UV light through a cyclo [2 + 2] reaction. After processed by linearly polarized polymn. (LPP), the spin-coating **films** of PU-CI were changed into photo alignment layers. Then sandwich-type **liq. crystal** cells (LC cells) of a 50-.mu.m-thick were assembled via a capillary action using nematic **liq. crystal** 5CB. The microscopic photographs were obtained which showed the LC-aligning ability of PU-CI photo alignment layers. The **photosensitive** polymer PU-CI synthesized has potential application as photo alignment layer in **liq. crystal** cells.

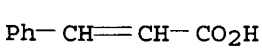
IT **465512-03-2P 465512-04-3P 533933-31-2P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

RN 465512-03-2 CAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, bis(2-hydroxyethyl) ester, polymer with 1,1'-methylenebis[4-isocyanatobenzene], 3-phenyl-2-propenoate (ester) (9CI) (CA INDEX NAME)

CM 1

CRN 621-82-9
CMF C9 H8 O2

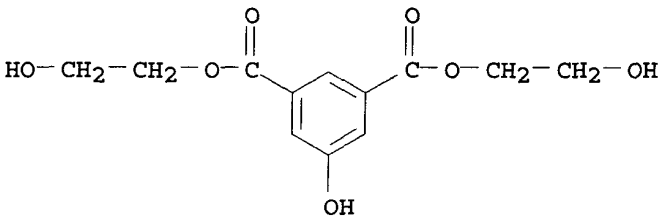


CM 2

CRN 463975-86-2
CMF (C15 H10 N2 O2 . C12 H14 O7)x
CCI PMS

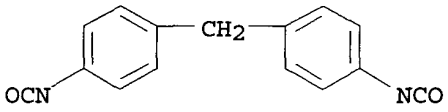
CM 3

CRN 74358-98-8
CMF C12 H14 O7



CM 4

CRN 101-68-8
CMF C15 H10 N2 O2

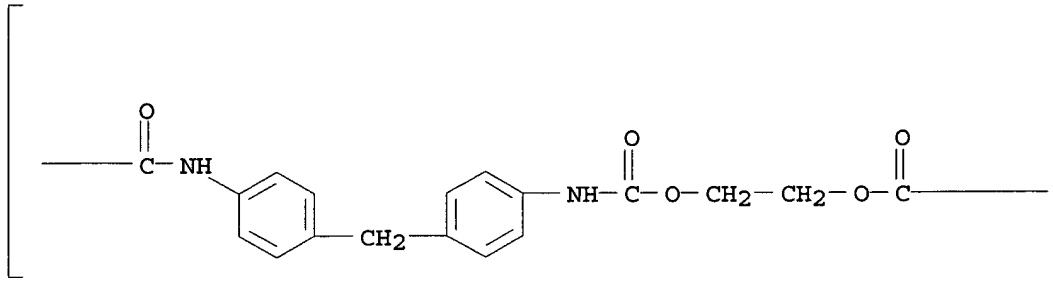


RN 465512-04-3 CAPLUS
CN Poly[oxy-1,2-ethanediyloxycarbonyl(5-hydroxy-1,3-phenylene)oxy-1,2-ethanediyloxycarbonylimino-1,4-phenylenemethylene-1,4-phenyleneiminocarbonyl], 3-phenyl-2-propenoate (ester) (9CI) (CA INDEX NAME)

CM 1

CRN 463975-87-3
CMF (C27 H24 N2 O9)n
CCI PMS

PAGE 1-A



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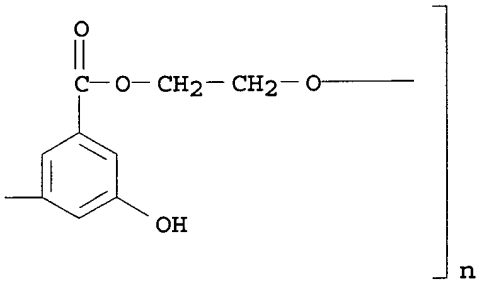

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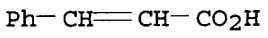
CRN 621-82-9
CMF C9 H8 O2



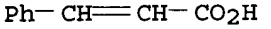
RN 533933-31-2 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 465512-03-2
CMF (C15 H10 N2 O2 . C12 H14 O7)x . x C9 H8 O2

CM 2

CRN 621-82-9
CMF C9 H8 O2

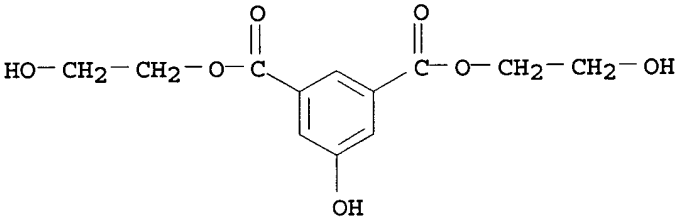


CM 3

CRN 463975-86-2
CMF (C15 H10 N2 O2 . C12 H14 O7)x
CCI PMS

CM 4

CRN 74358-98-8
CMF C12 H14 O7



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CRN 101-68-8
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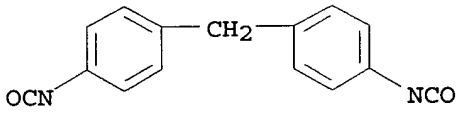


CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 37, 74, 75

ST hydroxyethyl hydroxyl isophthalate monomer polyurethane linear polarized polymn; **liq crystal** display polyurethane photo alignment layer

IT **Liquid crystals**
(nematic; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT Polymer chains
(orientation; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT Polyurethanes

RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyether-; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT Glass transition temperature
Liquid crystal displays
Polymerization
(synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT 40817-08-1, 5CB
RL: TEM (Technical or engineered material use); USES (Uses)
(**liq. crystal**; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT 74358-98-8P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT 463975-86-2P 463975-87-3P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(precursor; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT 107-07-3, 2-Chloro-1-ethanol 618-83-7, 5-Hydroxyisophthalic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

IT **465512-03-2P 465512-04-3P 533933-31-2P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(synthesis and characterization of polyurethane-based photo-alignment layer polymer for **liq. crystal** displays)

L25 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:194613 CAPLUS
DOCUMENT NUMBER: 138:229349
TITLE: Retarder films imparting wide viewing angle to displays, their cellulose ester films, their manufacture, and polarizing plates and LCD therewith
INVENTOR(S): Fujihana, Kenichiro; Umeda, Hiroki
PATENT ASSIGNEE(S): Konica Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003073485	A2	20030312	JP 2001-270177	20010906

PRIORITY APPLN. INFO.: JP 2001-270177 20010906

AB Dopes contg. .gtoreq.2 cellulose esters of different acyl substitution degree or having different substituents are cast, dried to residual solvent <100%, and stretched at 110-160.degree. to form films satisfying R1/R0 0.8-2.5 and R0 41-300 nm (R1, R0 = retardation in longitudinal and thickness direction, calcn. formula for R1 and R0 are given). The retarder films, showing minimized curl and good dimensional stability under hot and humid conditions, have the cellulose ester films and stabilized (e.g., polymd.) liq. crystal layers on/above the films.

IT **500899-87-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of cellulose ester **retarder films** imparting wide viewing angle to liq crystal displays)

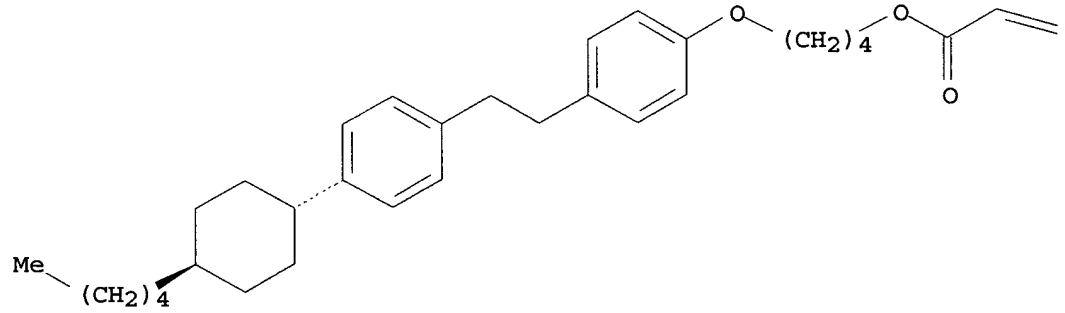
RN 500899-87-6 CAPLUS
CN [1,1'-Biphenyl]-4-carboxylic acid, 4'-[trans-4-[[1-oxo-7-[(1-oxo-2-propenyl)oxy]heptyl]oxy]cyclohexyl]-, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]phenyl ester, polymer with 1,4-butanediyl di-2-propenoate and 4-[4-[2-[4-(trans-4-pentylcyclohexyl)phenyl]ethyl]phenoxy]butyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 500899-86-5
CMF C32 H44 O3

Relative stereochemistry.

PAGE 1-A



PAGE 1-B

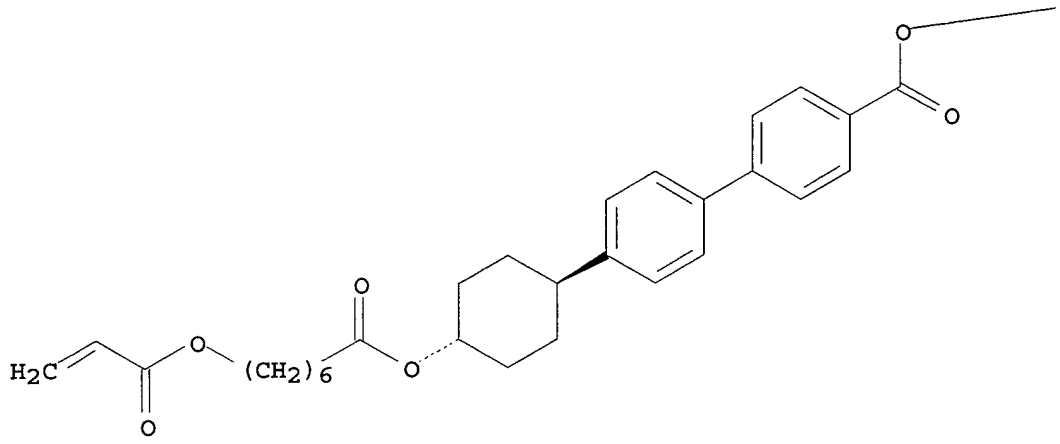
CH2

CM 2

CRN 391684-21-2
CMF C42 H48 O9

Relative stereochemistry.

PAGE 1-A



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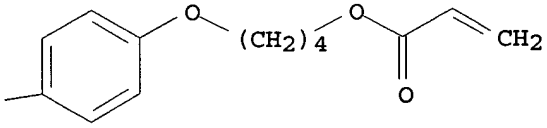
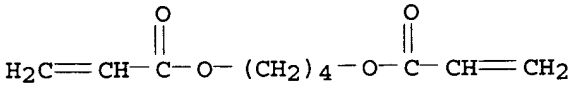


CM 3

CRN 1070-70-8
CMF C10 H14 O4



IC ICM C08J005-18
ICS B29C055-02; G02B005-30; G02F001-1335; G02F001-1336; B29K086-00; B29L007-00; C08L001-10
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 43, 73, 75
ST viewing angle widening retarder cellulose ester film; cellulose acetate propionate blend film retarder; LCD polarizer retarder film mixed cellulose ester
IT Polyesters, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT Casting process
Liquid crystal displays
Polarizers
(manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT Liquid crystals, polymeric
(retarder films; manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT Optical instruments
(retarders, films; manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT **500899-87-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of cellulose ester **retarder films** imparting wide viewing angle to liq crystal displays)
IT 9004-39-1, Cellulose acetate propionate
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)
IT 9004-35-7, Cellulose acetate
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of cellulose ester retarder films imparting wide viewing angle to liq crystal displays)

L25 ANSWER 4 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:36894 CAPLUS
DOCUMENT NUMBER: 138:98299
TITLE: Manufacture of phase-retardation film by orientation of polymer coating under irradiation
INVENTOR(S): Sakai, Takeya; Uetsuki, Masao; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003014928	A2	20030115	JP 2001-196011	20010628

PRIORITY APPLN. INFO.: JP 2001-196011 20010628

AB Title process comprises (A) coating photosensitive polymers (and low.-mol.-wt. compds.) on a uniaxial or/and biaxial optically anisotropic layers; and (B) irradiating under light to induce mol. orientation, and, as a result, angle-dependent phase retardation. Thus, 3.75% liq. cryst. homopolymer of CH2:CMeCO2(CH2)6O-1,4-C6H4-1,4-C6H4O(CH2)2OCOCH:CHPh and 1.25% CH2:CMeCO2(CH2)6O-1,4-C6H4-1,4-C6H4O(CH2)6OCOCMe:CH2 were dissolved in CH2Cl2 and applied on a polycarbonate film, and irradiated with UV light at different angles to give an optical retardation film .

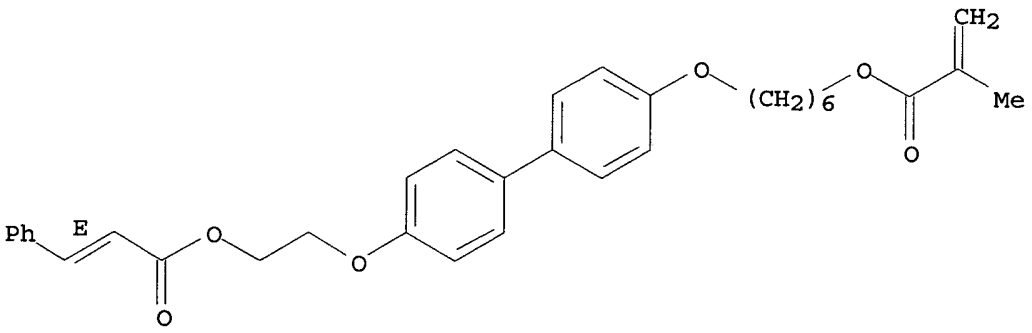
IT **183234-81-3P**
RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(intermediate; manuf. of phase-**retardation film** by orientation of polymer coating under irradn.)

RN 183234-81-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[[(2E)-1-oxo-3-phenyl-2-propenyl]oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 183234-77-7
CMF C33 H36 O6

Double bond geometry as shown.



IT **483370-49-6P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)
(manuf. of phase-**retardation film** by orientation of
polymer coating under irradn.)

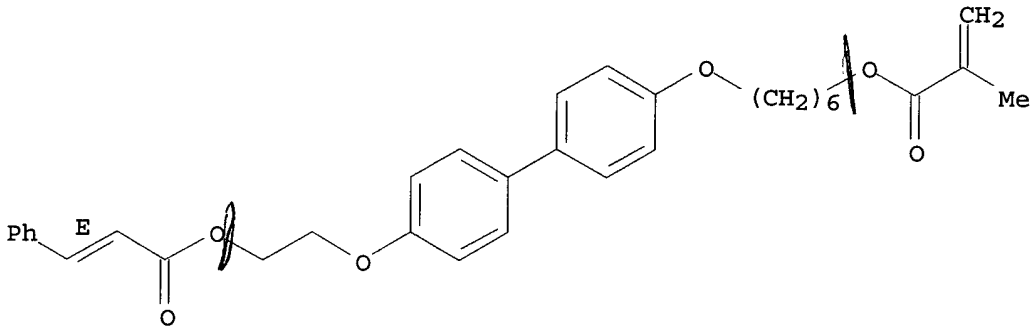
RN 483370-49-6 CAPLUS

CN 2-Propenoic acid, 2-methyl-, [1,1'-biphenyl]-4,4'-diylbis(oxy-6,1-hexanediyl) ester, polymer with 6-[[4'-[2-[[(2E)-1-oxo-3-phenyl-2-propenyl]oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

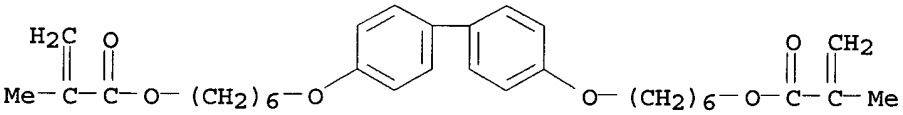
CRN 183234-77-7
CMF C33 H36 O6

Double bond geometry as shown.



CM 2

CRN 126757-88-8
CMF C32 H42 O6



IC ICM G02B005-30
ICS C08J007-00; G02F001-1336; C08L101-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 42

ST liq cryst polymer mol orientation UV irradn retardation film; polycarbonate substrate photosensitive coating mol orientation phase retardation film

IT Coating materials
(light-sensitive; manuf. of phase-retardation film by orientation of

polymer coating under irradn.)

IT Liquid crystal displays
Liquid crystals, polymeric
(manuf. of phase-retardation film by orientation of polymer coating under irradn.)

IT Optical films
(phase retardation; manuf. of phase-retardation film by orientation of polymer coating under irradn.)

IT Optical instruments
(retarders, phase-, film; manuf. of phase-retardation film by orientation of polymer coating under irradn.)

IT Polycarbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; manuf. of phase-retardation film by orientation of polymer coating under irradn.)

IT **183234-81-3P**
RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(intermediate; manuf. of phase-**retardation film** by orientation of polymer coating under irradn.)

IT 126757-88-8P
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(intermediate; manuf. of phase-retardation film by orientation of polymer coating under irradn.)

IT **483370-49-6P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of phase-**retardation film** by orientation of polymer coating under irradn.)

L25 ANSWER 5 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:976065 CAPLUS
DOCUMENT NUMBER: 138:47435
TITLE: Composite optical retardation film, circularly polarizing film, and liquid-crystal display and organic electroluminescent display device using them
INVENTOR(S): Yoshimi, Hiroyuki
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002372623	A2	20021226	JP 2001-179941	20010614

PRIORITY APPLN. INFO.: JP 2001-179941 20010614

AB The optical retardation film has a .lambda./4 birefringence layer and .gtoreq.1 .lambda./2 birefringence layer on a .lambda./4 or .lambda./2 transparent drawn polymer film. The birefringence layers comprise liq.-crystal compds. The circularly polarizing film is a laminate of the optical retardation film and a polarizing film. Liq.-crystal displays and org. electroluminescent display devices using the optical retardation film or circularly polarizing film are also claimed. The optical films provide 1/4 phase shifts in wide wavelength range, and the liq.-crystal displays have wide view angles and the electroluminescent display devices produce clear images without light reflection.

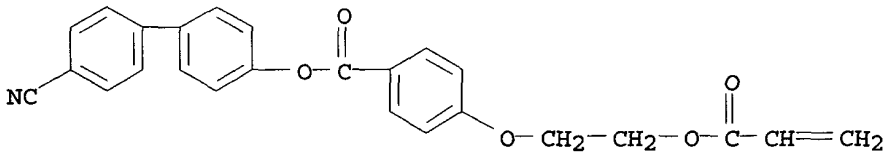
IT **279256-64-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(birefringence layers; composite optical **retardation film** and circularly polarizing **film** for liq.-crystal display and org. electroluminescent display device)

RN 279256-64-3 CAPLUS

CN Benzoic acid, 4-[2-[(1-oxo-2-propenyl)oxy]ethoxy]-, 4'-cyano[1,1'-biphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 133945-18-3
CMF C25 H19 N O5



IC ICM G02B005-30
ICS G02F001-1335; G02F001-1336; G09F009-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73

ST composite optical retardation film liq crystal birefringence layer; liq crystal display wide view angle optical retarder; circularly polarizing film liq crystal birefringence layer; antireflective film org electroluminescent display

IT Antireflective films
Liquid crystal displays
Polarizing films
(composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

IT Electroluminescent devices
(displays; composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

IT Luminescent screens

(electroluminescent; composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

IT Optical instruments
(retarders, films; composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

IT **279256-64-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(birefringence layers; composite optical **retardation film** and circularly polarizing **film** for liq.-crystal display and org. electroluminescent display device)

IT 478687-17-1, SEG 1425DU
RL: TEM (Technical or engineered material use); USES (Uses)
(polarizing film; composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

IT 25038-76-0, Norbornene homopolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; composite optical retardation film and circularly polarizing film for liq.-crystal display and org. electroluminescent display device)

L25 ANSWER 6 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:944764 CAPLUS
DOCUMENT NUMBER: 138:31097
TITLE: Polymer film and its use in display device substrate
INVENTOR(S): Matsuda, Yutaka; Tanaka, Junji; Umeta, Hideo
PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002356566	A2	20021213	JP 2001-239761	20010807

PRIORITY APPLN. INFO.:
JP 2000-239661 A 20000808
JP 2000-365753 A 20001130
JP 2001-15882 A 20010124
JP 2001-35760 A 20010213
JP 2001-95605 A 20010329

AB The film has retardation within viewing angle 50.degree. .ltoreq.5 nm and is used in the substrate of the device preferably using TFT. The film may be prepd. by heat treatment of crosslinked polymers contg. (meth)acryloyl groups. The film with high resistance to DMSO, tetramethylammonium hydroxide, and liq. crystals, is esp. suitable for active matrix liq. crystal displays and also for optical disks, optical waveguides, etc.

IT **246858-42-4P 462058-65-7P 462109-11-1P**

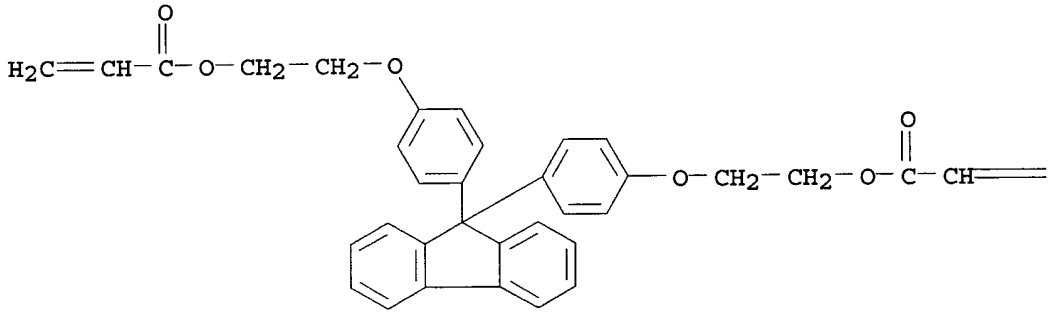
478243-08-2P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic polymer **film** with controlled **retardation** for liq. crystal display substrate)

RN 246858-42-4 CAPLUS
CN 2-Propenoic acid, 9H-fluoren-9-ylidenebis(4,1-phenyleneoxy-2,1-ethanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 161182-73-6
CMF C35 H30 O6

PAGE 1-A



PAGE 1-B

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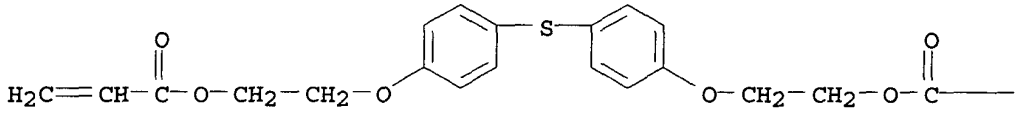
RN 462058-65-7 CAPLUS
CN 2-Propenoic acid, thiobis(4,1-phenyleneoxy-2,1-ethanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

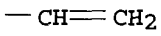
CM 1

CRN 462058-64-6
CMF C22 H22 O6 S

PAGE 1-A



PAGE 1-B

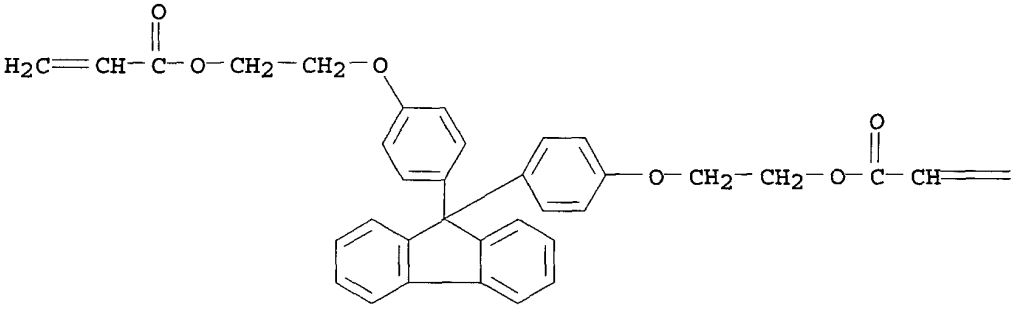


RN 462109-11-1 CAPLUS
CN 2-Propenoic acid, 9H-fluoren-9-ylidenebis[4,1-phenyleneoxy(methyl-2,1-ethanediyl)] ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 478245-10-2
CMF C37 H34 O6
CCI IDS

PAGE 1-A



2 (D1—Me)

PAGE 1-B

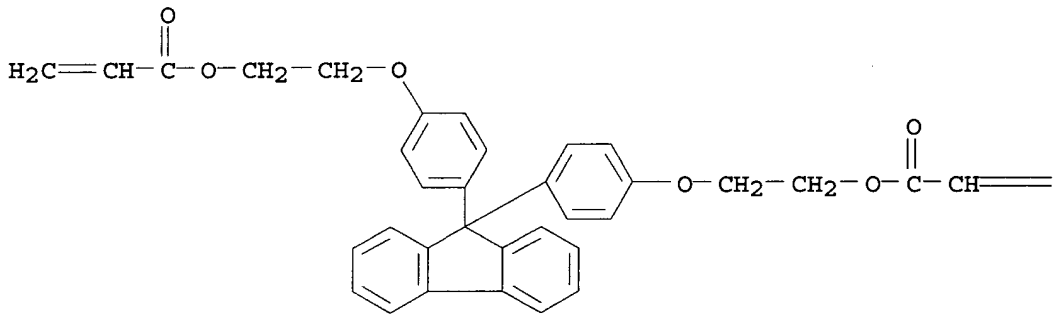
$=CH_2$

RN 478243-08-2 CAPLUS
CN 2-Propenoic acid, 9H-fluoren-9-ylidenebis(4,1-phenyleneoxy-2,1-ethanediyl) ester, polymer with (octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene) di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 161182-73-6
CMF C35 H30 O6

PAGE 1-A



PAGE 1-B

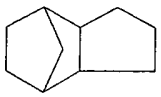
$=CH_2$

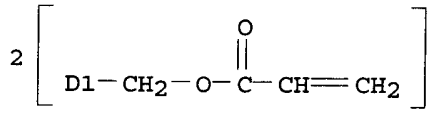
CM 2

CRN 42594-17-2
CMF C18 H24 O4

KOROMA EIC1700

CCI IDS





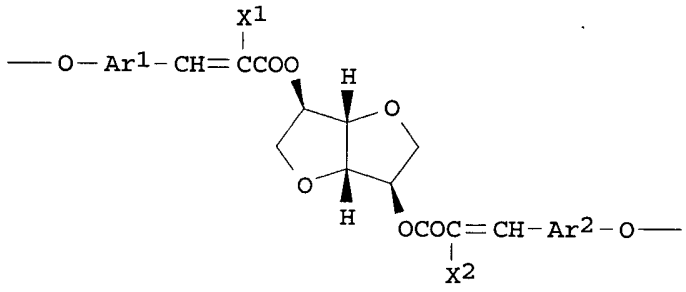
IC ICM C08J005-18
ICS C08F020-10; G02F001-1333; C08L033-06
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST acrylic polymer film retardation control TFT LCD
IT Liquid crystal displays
Optical films
Plastic films
(acrylic polymer film with controlled retardation for liq. crystal display substrate)
IT Thin film transistors
(display device with; acrylic polymer film with controlled retardation for liq. crystal display substrate)
IT Crosslinking
Heat treatment
(film obtained by; acrylic polymer film with controlled retardation for liq. crystal display substrate)
IT 71512-49-7P 100844-80-2P 106831-85-0P 116321-27-8P 147073-77-6P 149697-88-1P 149697-92-7P **246858-42-4P** 462058-60-2P **462058-65-7P** **462109-11-1P** 465539-38-2P 478242-99-8P 478243-00-4P 478243-01-5P 478243-02-6P 478243-03-7P 478243-05-9P 478243-07-1P **478243-08-2P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic polymer **film** with controlled **retardation** for liq. crystal display substrate)

L25 ANSWER 7 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:900889 CAPLUS
DOCUMENT NUMBER: 137:391153
TITLE: Optically active polyesters and their photoreactive chiral agents, **liquid crystal** compositions, photoinduced change or fixation of helical structures of **liquid crystals** in the compositions, and their uses
INVENTOR(S): Yumoto, Masatoshi; Ichihashi, Mitsuyoshi; Kawabata,

Koya
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002338668	A2	20021127	JP 2001-144532	20010515
US 2003111639	A1	20030619	US 2002-143876	20020514

PRIORITY APPLN. INFO.: JP 2001-144532 A 20010515
GI



I

AB The optically active polyesters for chiral agents having high resoln. are composed of structure units of isosorbides I (Ar1, Ar2 = divalent arom. or heteroarom. group; X1, X2 = H, electron-withdrawing group), C(O)AC(O) (A = divalent substituent), and optionally OBO (B = divalent substituent). **Liq. cryst.** compns. contain at least **liq. cryst.** compds. and the optically active polyesters. In another alternative, the **liq. cryst.** compns. contain **liq. cryst.** compds. bearing .gtoreq.1 polymerizable groups, .gtoreq.1 of the polyesters, and photopolymn. photopolymn. initiators. For changing helical structures of **liq. crystals**, the compns. are irradiated with light to change the structure of the polyesters. For fixation of helical structures of **liq. crystals**, the compns. are imagewisely irradiated with light of wavelength the polyesters are sensitive to, followed with irradiating with light of wavelength the photopolymn. initiators are sensitive to. **Liq. cryst.** color filters, optical filters, and recording media contg. **liq. cryst.** compds. and .gtoreq.1 of the polyesters are also claimed.

IT **476364-64-4P 476364-65-5P 476364-66-6P**
476364-67-7P 476364-69-9P 476364-70-2P
476364-71-3P 476364-72-4P 476364-73-5P
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use)

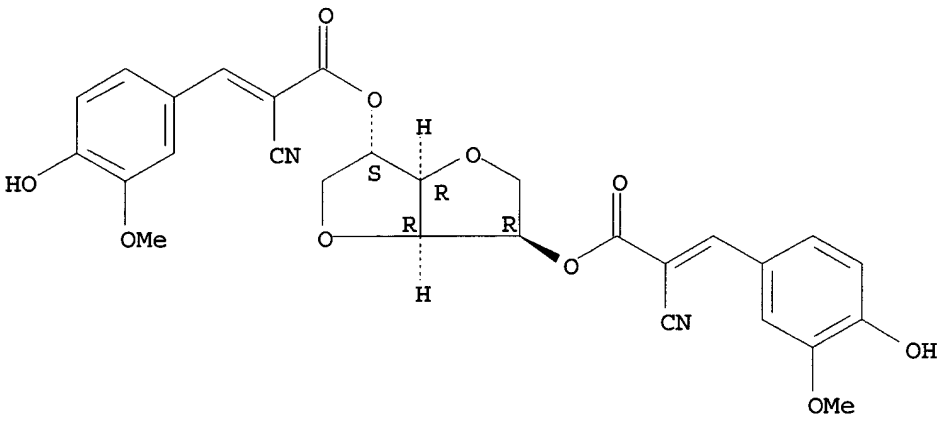
RN 476364-64-4 CAPLUS

CN D-Glucitol, 1,4:3,6-dianhydro-, bis[2-cyano-3-(4-hydroxy-3-methoxyphenyl)-2-propenoate], polymer with 1,4-benzenedicarbonyl dichloride (9CI) (CA INDEX NAME)

CM 1

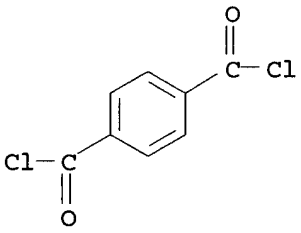
CRN 476364-63-3
CMF C28 H24 N2 O10

Absolute stereochemistry.
Double bond geometry unknown.



CM 2

CRN 100-20-9
CMF C8 H4 Cl2 O2

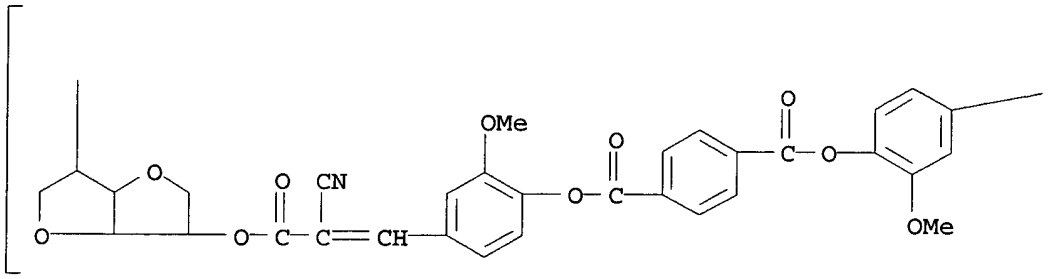


RN 476364-65-5 CAPLUS

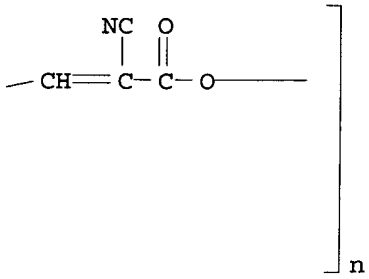
CN Poly[[(2.xi.,5.xi.)-1,4:3,6-dianhydro-2,5-dideoxy-D-threo-hexitol-2,5-diyl]oxy(2-cyano-1-oxo-2-propene-1,3-diyl)(3-methoxy-1,4-phenylene)oxycarbonyl-1,4-phenylenecarbonyloxy(2-methoxy-1,4-phenylene)(2-

cyano-3-oxo-1-propene-1,3-diyl)oxy] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

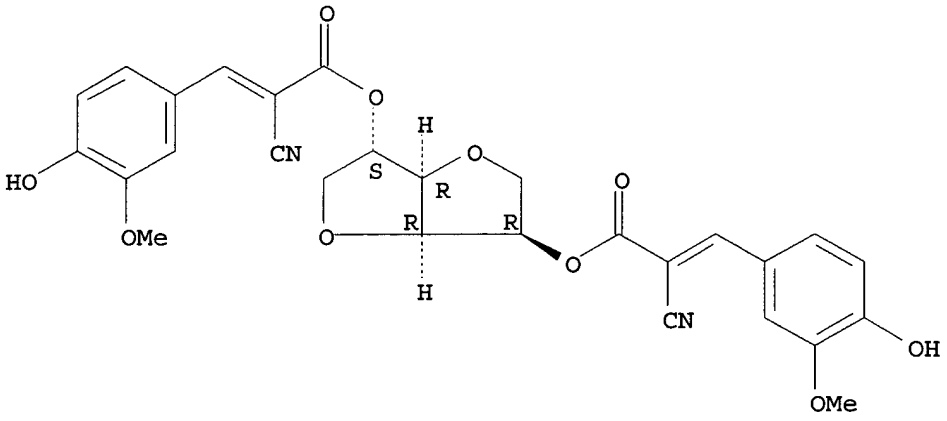


RN 476364-66-6 CAPLUS
CN D-Glucitol, 1,4:3,6-dianhydro-, bis[2-cyano-3-(4-hydroxy-3-methoxyphenyl)-2-propenoate], polymer with 4,4'-[1,12-dodecanediylbis(oxy)]bis[benzoyl chloride] (9CI) (CA INDEX NAME)

CM 1

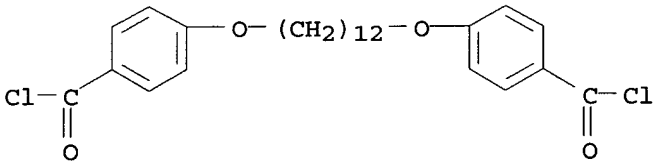
CRN 476364-63-3
CMF C28 H24 N2 O10

Absolute stereochemistry.
Double bond geometry unknown.



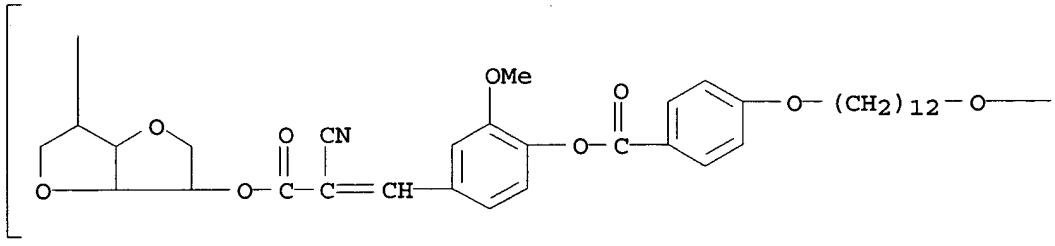
CM 2

CRN 40873-07-2
CMF C26 H32 Cl2 O4

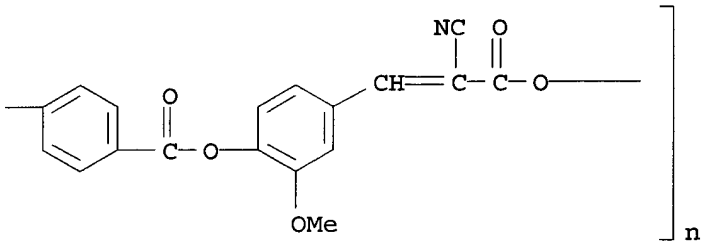


RN 476364-67-7 CAPLUS
CN Poly[[(2.xi.,5.xi.)-1,4:3,6-dianhydro-2,5-dideoxy-D-threo-hexitol-2,5-diyl]oxy(2-cyano-1-oxo-2-propene-1,3-diyl)(3-methoxy-1,4-phenylene)oxycarbonyl-1,4-phenyleneoxy-1,12-dodecanediyloxy-1,4-phenylenecarbonyloxy(2-methoxy-1,4-phenylene)(2-cyano-3-oxo-1-propene-1,3-diyl)oxy] (9CI) (CA INDEX NAME)

PAGE 1-A



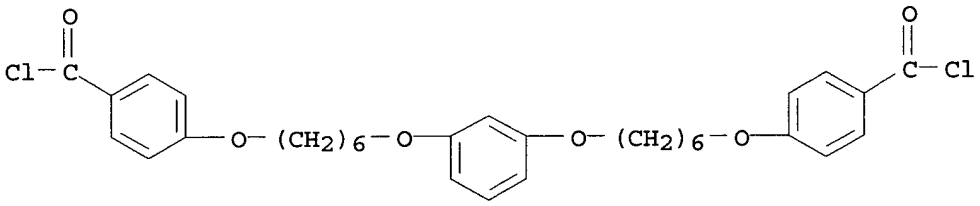
PAGE 1-B



RN 476364-69-9 CAPLUS
CN D-Glucitol, 1,4:3,6-dianhydro-, bis[2-cyano-3-(4-hydroxy-3-methoxyphenyl)-2-propenoate], polymer with 4,4'-[1,3-phenylenebis(oxy-6,1-hexanediyloxy)]bis[benzoyl chloride] (9CI) (CA INDEX NAME)

CM 1

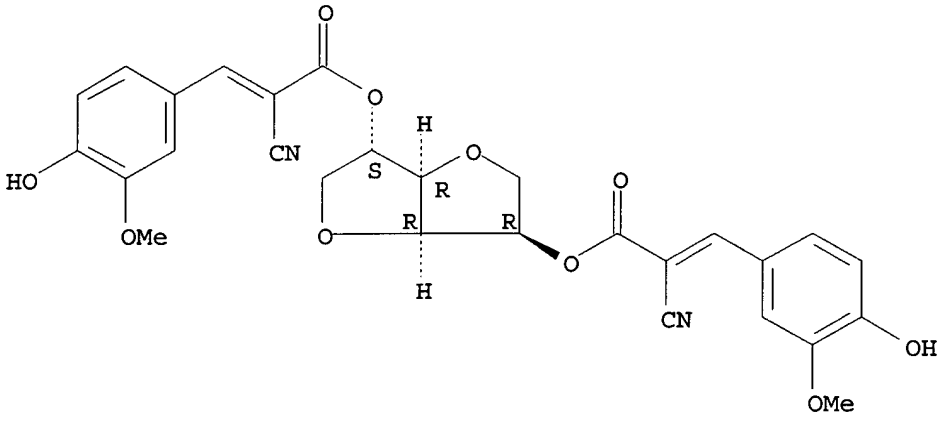
CRN 476364-68-8
CMF C32 H36 Cl2 O6



CM 2

CRN 476364-63-3
CMF C28 H24 N2 O10

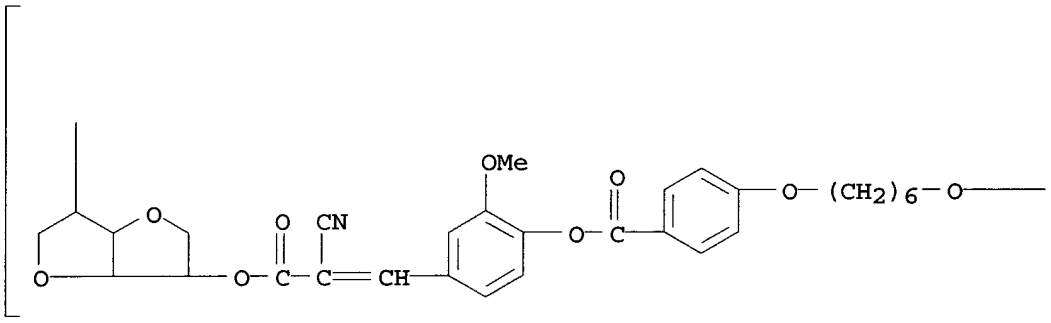
Absolute stereochemistry.
Double bond geometry unknown.



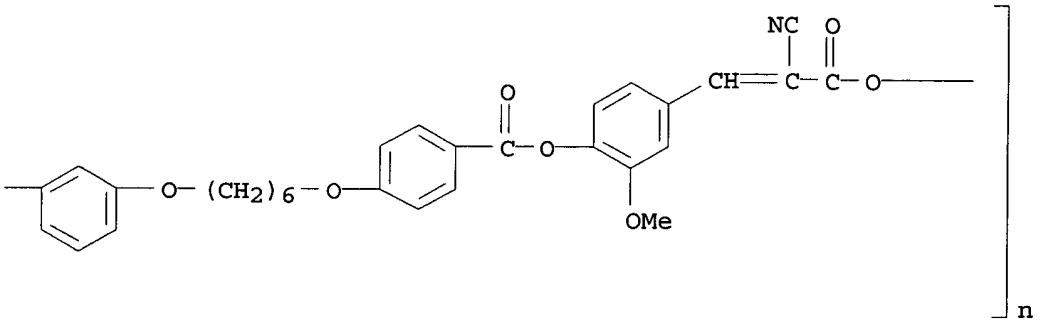
RN 476364-70-2 CAPLUS

CN Poly[[(2.xi.,5.xi.)-1,4:3,6-dianhydro-2,5-dideoxy-D-threo-hexitol-2,5-diyl]oxy(2-cyano-1-oxo-2-propene-1,3-diyl)(3-methoxy-1,4-phenylene)oxycarbonyl-1,4-phenyleneoxy-1,6-hexanediyloxy-1,3-phenyleneoxy-1,6-hexanediyloxy-1,4-phenylenecarbonyloxy(2-methoxy-1,4-phenylene)(2-cyano-3-oxo-1-propene-1,3-diyl)oxy] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

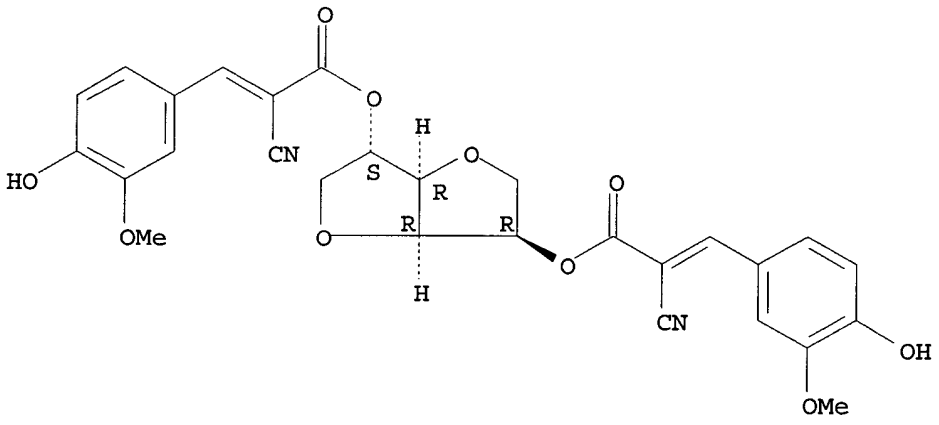


RN 476364-71-3 CAPLUS
CN D-Glucitol, 1,4:3,6-dianhydro-, bis[2-cyano-3-(4-hydroxy-3-methoxyphenyl)-2-propenoate], polymer with 4,4'-[oxybis(2,1-ethanediyloxy)]bis[benzoyl chloride] (9CI) (CA INDEX NAME)

CM 1

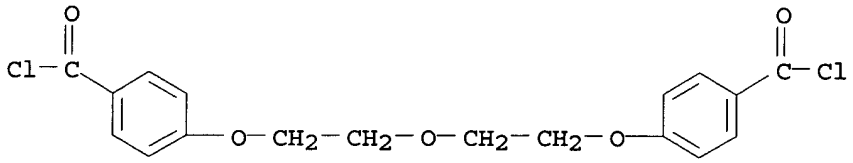
CRN 476364-63-3
CMF C28 H24 N2 O10

Absolute stereochemistry.
Double bond geometry unknown.



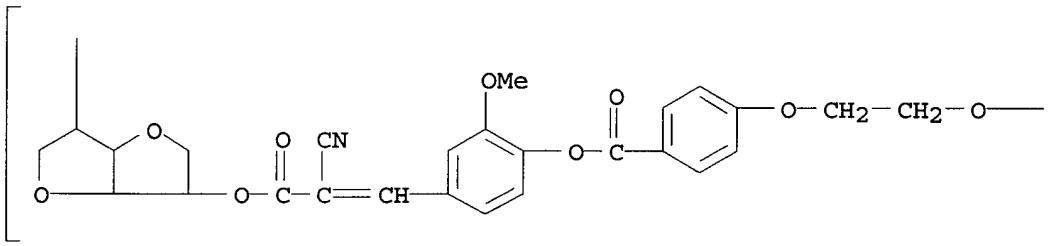
CM 2

CRN 103747-13-3
CMF C18 H16 Cl2 O5

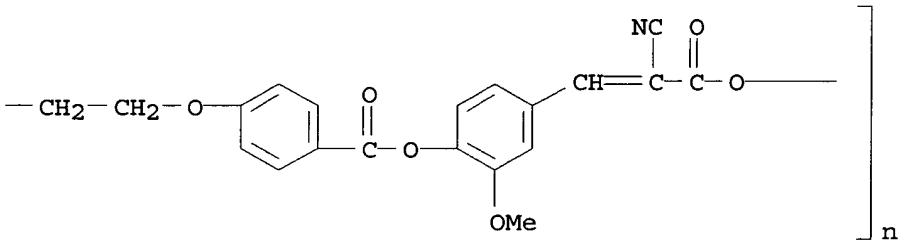


RN 476364-72-4 CAPLUS
CN Poly[[(2.xi.,5.xi.)-1,4:3,6-dianhydro-2,5-dideoxy-D-threo-hexitol-2,5-diyl]oxy(2-cyano-1-oxo-2-propene-1,3-diyl)(3-methoxy-1,4-phenylene)oxycarbonyl-1,4-phenyleneoxy-1,2-ethanediyloxy-1,2-ethanediyloxy-1,4-phenylenecarbonyloxy(2-methoxy-1,4-phenylene)(2-cyano-3-oxo-1-propene-1,3-diyl)oxy] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 476364-73-5 CAPLUS
CN D-Glucitol, 1,4:3,6-dianhydro-, bis[2-cyano-3-(4-hydroxy-3-methoxyphenyl)-2-propenoate], polymer with 1,4-benzenedicarbonyl dichloride and 2-methyl-1,4-benzenediol (9CI) (CA INDEX NAME)

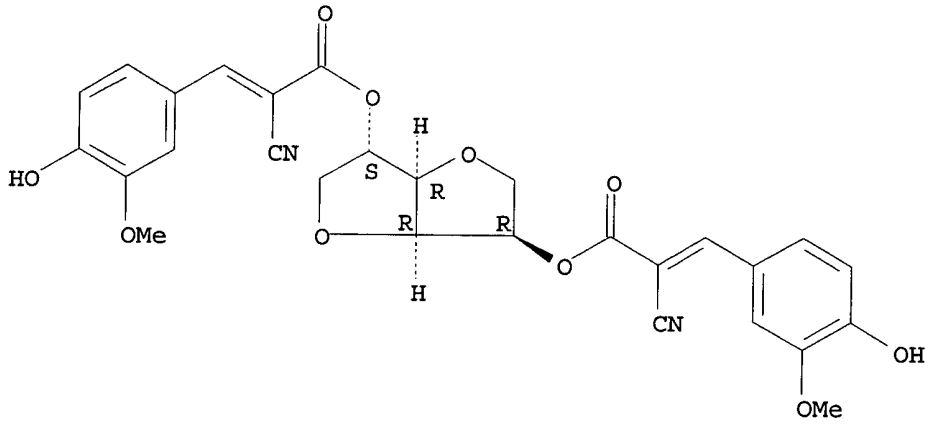
CM 1

CRN 476364-63-3
CMF C28 H24 N2 O10

Absolute stereochemistry.

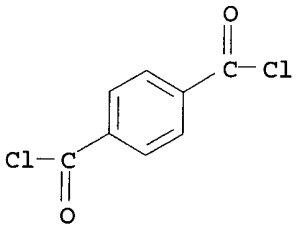
KOROMA EIC1700

Double bond geometry unknown.



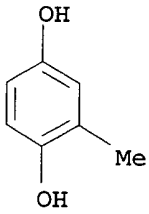
CM 2

CRN 100-20-9
CMF C8 H4 Cl2 O2



CM 3

CRN 95-71-6
CMF C7 H8 O2



IC ICM C08G063-52

KOROMA EIC1700

ICS C08F283-01; G02B005-20; G02B005-26; G02F001-13
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST optically active isosorbide polyester chiral agent; **liq crystal** optically active isosorbide polyester; cholesteric **liq crystal** optically active isosorbide polyester; nematic **liq crystal** optically active isosorbide polyester; color filter optically active isosorbide polyester; optical **film** optically active isosorbide polyester; isosorbide polyester optical recording medium; unsatd isosorbide polyester chiral agent
IT Optical reflectors
(circularly polarized; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use as)
IT **Liquid crystal** displays
Liquid crystals
Optical filters
Optical recording materials
(optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use as)
IT Polyethers, preparation
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyester-, unsatd.; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use)
IT Polyesters, preparation
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyether-, unsatd.; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use)
IT Optical instruments
(retarders; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use as)
IT Polyesters, preparation
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(unsatd., isosorbide-based; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use)
IT 66230-67-9, ZLI 1132
RL: TEM (Technical or engineered material use); USES (Uses)
(optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns. contg.)
IT **476364-64-4P 476364-65-5P 476364-66-6P 476364-67-7P 476364-69-9P 476364-70-2P 476364-71-3P 476364-72-4P 476364-73-5P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optically active isosorbide polyesters as photoreactive chiral agents,

their **liq. crystal** compns., and their use)

IT 3712-60-5 31701-42-5 132694-65-6 250230-59-2 339588-79-3
360076-77-3
RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive** compn. contg.; optically active isosorbide polyesters as photoreactive chiral agents, their **liq. crystal** compns., and their use)

L25 ANSWER 8 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:867199 CAPLUS
DOCUMENT NUMBER: 137:360152
TITLE: Low-cost manufacture of optical **films** containing **liquid crystals** and **films** showing selective light reflection
INVENTOR(S): Ichihashi, Mitsuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002328229	A2	20021115	JP 2001-134058	20010501

PRIORITY APPLN. INFO.: JP 2001-134058 20010501

AB Compns. contg. **liq. crystal** compds. having .gtoreq.1 polymerizable group(s) and polymn. initiators are kept at a temp. for forming **liq. crystal** phase, polymd. by irradn. of light under .ltoreq.80.degree., and then heat-cured to give optical **films**. **Films** showing selective light reflection are obtained by using nematic **liq. crystal** compns. contg. chiral agents (e.g. photoreactive chiral agents), using **liq. crystal** compns. contg. agents for orientation of free surface, or by repeating the photo- and heat-curing process. Color filters, optical retardation **films**, etc. can be obtained.

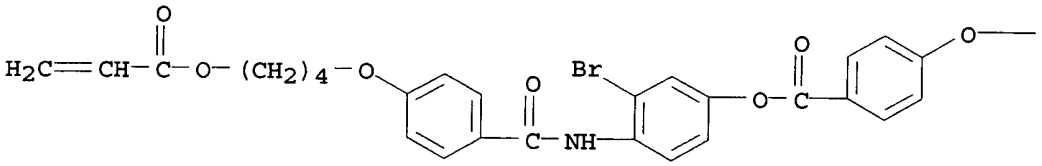
IT **401660-99-9P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal**; manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

RN 401660-99-9 CAPLUS
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 3-bromo-4-[[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoyl]amino]phenyl ester, homopolymer (9CI) (CA INDEX NAME)

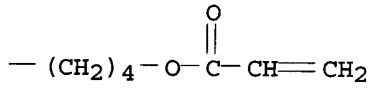
CM 1

CRN 360076-77-3
CMF C34 H34 Br N O9

PAGE 1-A



PAGE 1-B



IC ICM G02B005-30
ICS G02B005-20; G02B005-26; G02F001-13; G02F001-1335; G02F001-1336

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 74, 75

ST **liq crystal** polymer optical **film**; selective light reflection **liq crystal** polymer

IT **Liquid crystals**, polymeric
Optical **films**
Optical filters
(manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

IT **Liquid crystals**
(nematic; manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

IT Optical instruments
(retarders; manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

IT Optical reflectors
(selective; manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

IT 381233-68-7
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(free surface orientation agent; manuf. of optical **films** contg. **liq. crystal** polymers and selective light reflection **films**)

IT **401660-99-9P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered

material use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal**; manuf. of optical **films**
contg. **liq. crystal** polymers and selective light
reflection **films**)

IT 474792-98-8
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**photosensitive** chiral agent; manuf. of optical **films**
contg. **liq. crystal** polymers and selective light
reflection **films**)

L25 ANSWER 9 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:792333 CAPLUS
DOCUMENT NUMBER: 137:311951
TITLE: Method for manufacture of cellulose acetate optical retardation film and polarizing plate
INVENTOR(S): Ito, Yoji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002302561	A2	20021018	JP 2001-107436	20010405

PRIORITY APPLN. INFO.: JP 2001-107436 20010405

AB The film-manufg. method includes forming a protective layer on one side of a cellulose acetate film, sapong. the film, forming an alignment layer on the sapond. side, and applying an optically anisotropic layer comprising a liq. cryst. compd. The film and plate prevent large-sized liq. crystal displays from light leakage and irregular brightness. Thus, a optical retardation sheet comprised sequential layers of SAT 106TS (protective film), a cellulose acetate film, an alignment layer contg. vinyl alc.-vinyl 4-(4-acryloyloxybutoxy)benzoate-vinyl acetate-glutaraldehyde copolymer, and an optically anisotropic layer contg. discotic liq. cryst. 2,3,6,7,10,11-hexa(4-acryloyloxybutoxyphenylcarbonyloxy)triphenylene-V 360 [trimethylolpropane tris[2-(acryloyloxy)ethyl] ether] copolymer, AB 551-0.2 (cellulose acetate butyrate), and CAB 531-1 (cellulose acetate butyrate) showed retardation 43 nm at 546 nm.

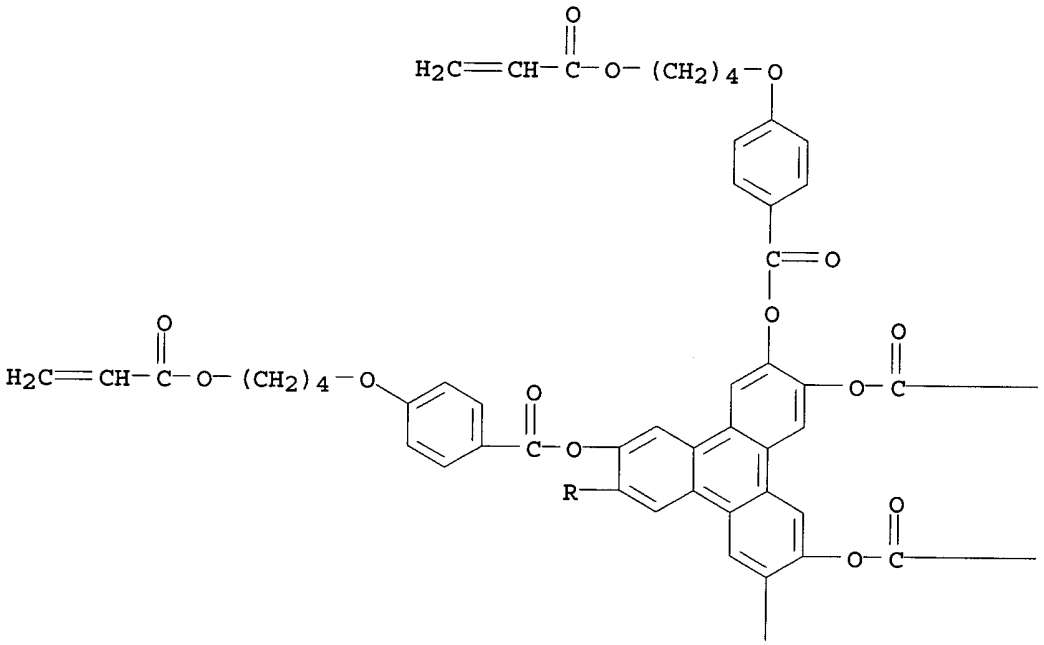
IT **401624-10-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optically anisotropic layers; manuf. of cellulose acetate optical **retardation film** for polarizing plate)

RN 401624-10-0 CAPLUS
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 2,3,6,7,10,11-triphenylenehexayl ester, polymer with [2-ethyl-2-[[2-[(1-oxopropenyl)oxy]ethoxy]methyl]-1,3-propanediyl]bis(oxy-1,2-ethanediyl) di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 174079-42-6
CMF C102 H96 O30

PAGE 1-A



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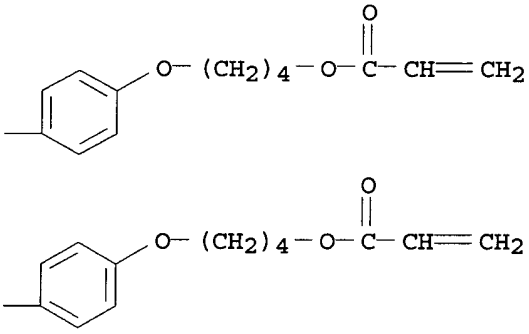

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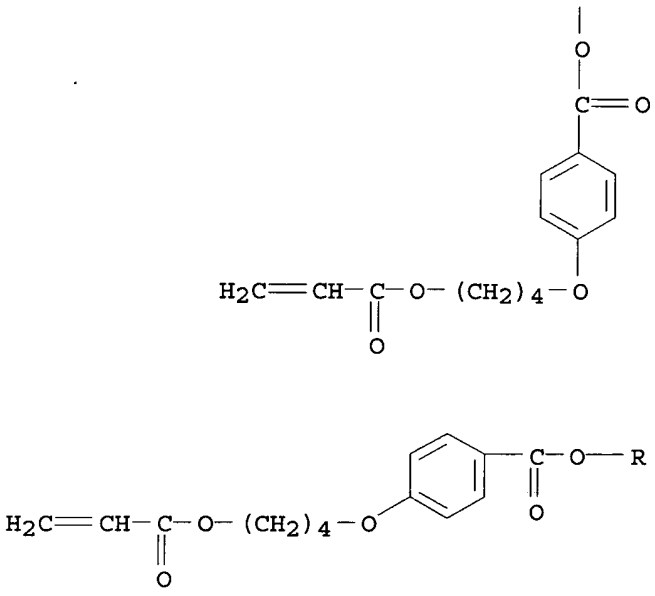
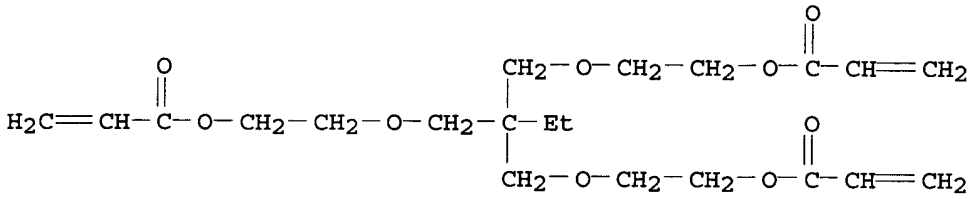


CM 2

CRN 75577-70-7
CMF C21 H32 O9



IC ICM C08J007-00
ICS C08J005-12; C08J007-04; G02B005-30; G02F001-1335; G02F001-1336; C08L001-12

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 74, 75

ST sapond cellulose acetate optical retardation film; liq crystal display polarizing plate cellulose acetate; acryloyloxybutoxyphenylcarbonyoxy triphenylene discotic liq crystal optical retardation film; modified polyvinyl alc liq crystal alignment optical retarder

IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alignment layers; manuf. of cellulose acetate optical retardation film for polarizing plate)

IT Liquid crystals
(discotic; manuf. of cellulose acetate optical retardation film for polarizing plate)

IT Polarizing films
(manuf. of cellulose acetate optical retardation film for polarizing plate)

IT Liquid crystal displays
(manuf. of cellulose acetate optical retardation film for polarizing plate for)

IT Optical instruments
(retarders; manuf. of cellulose acetate optical retardation film for polarizing plate)

IT 211913-71-2P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked, alignment layers; manuf. of cellulose acetate optical retardation film for polarizing plate)

IT 9012-09-3, Cellulose triacetate
RL: TEM (Technical or engineered material use); USES (Uses)
(films; manuf. of cellulose acetate optical retardation film for polarizing plate)

IT 9004-35-7DP, Cellulose acetate, sapond.
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of cellulose acetate optical retardation film for polarizing plate)

IT 9004-36-8, Cellulose, acetate butanoate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material

use); USES (Uses)
(manuf. of cellulose acetate optical retardation film for polarizing plate)
IT 66230-67-9, ZLI 1132 361146-23-8, Fujitac TD 80UF
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of cellulose acetate optical retardation film for polarizing plate)
IT **401624-10-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optically anisotropic layers; manuf. of cellulose acetate optical **retardation film** for polarizing plate)
IT 9002-89-5, Vinyl alcohol homopolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(polarizing films; manuf. of cellulose acetate optical retardation film for polarizing plate)
IT 25038-59-9, SAT 106TS, uses
RL: NUU (Other use, unclassified); USES (Uses)
(protective film; manuf. of cellulose acetate optical retardation film for polarizing plate)

L25 ANSWER 10 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:709178 CAPLUS
DOCUMENT NUMBER: 137:255460
TITLE: Stretched or unstretched cellulose ester film, optical retarder, optical compensator sheet, polarizer, and liquid crystal display
INVENTOR(S): Murayama, Masahiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002267846	A2	20020918	JP 2001-72390	20010314

PRIORITY APPLN. INFO.: JP 2001-72390 20010314

AB The stretched film has breaking elongation in vertical direction to max.-stretched direction 40-110%. The unstretched film satisfied breaking elongation in a certain direction 40-110%. The film may contain polyester-polyurethanes and/or arom. compds. having .gtoreq.2 arom. rings. The retarder consists of the stretched cellulose ester film alone. The compensator sheet consists of the stretched cellulose ester film and optionally optically anisotropic liq. crystal compd. layer. The polarizer uses a polarizing film sandwiched between 2 transparent protection films, one of which is made of the above sheet. The display has a liq. crystal cell sandwiched between polarizers using the above stretched film. The film is stretched without breaking or clouding for controlling optical property, so that the stretched film has desired optical anisotropy.

IT **460721-29-3P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(anisotropic layer on compensator sheet; cellulose ester **film**, optical **retarder**, optical compensator sheet, and polarizer for liq. crystal display)

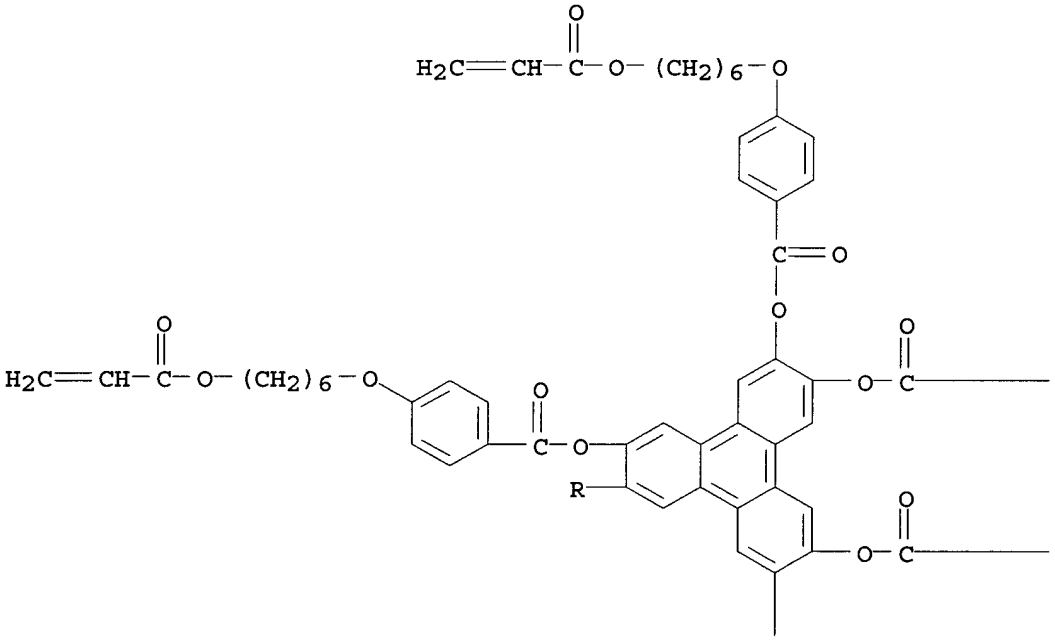
RN 460721-29-3 CAPLUS

CN Benzoic acid, 4-[[6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-, 2,3,6,7,10,11-triphenylenehexayl ester, polymer with [2-ethyl-2-[[2-[(1-oxo-2-propenyl)oxy]ethoxy]methyl]-1,3-propanediyl]bis(oxy-2,1-ethanediyl) di-2-propenoate (9CI) (CA INDEX NAME)

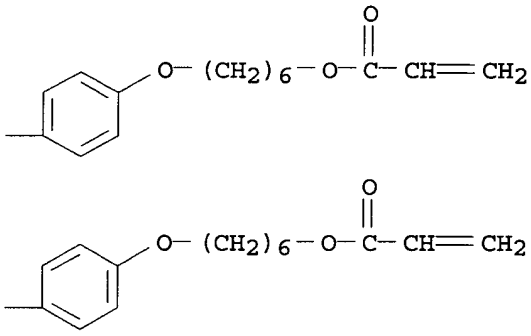
CM 1

CRN 173071-44-8
CMF C114 H120 O30

PAGE 1-A



PAGE 1-B



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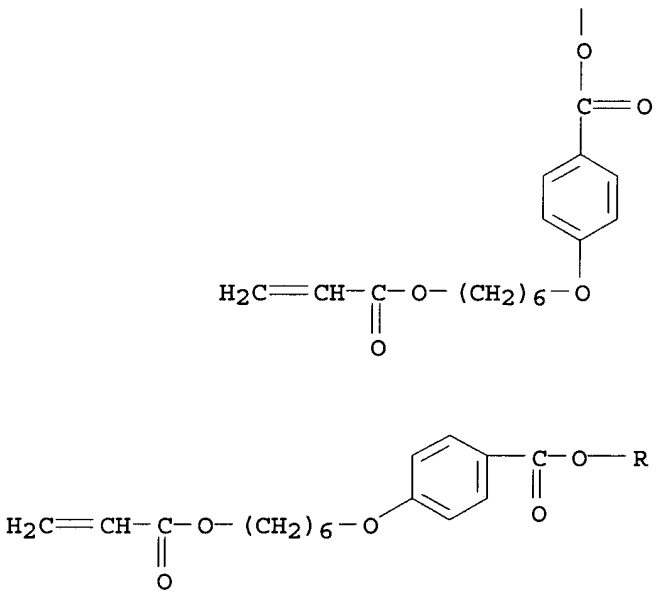
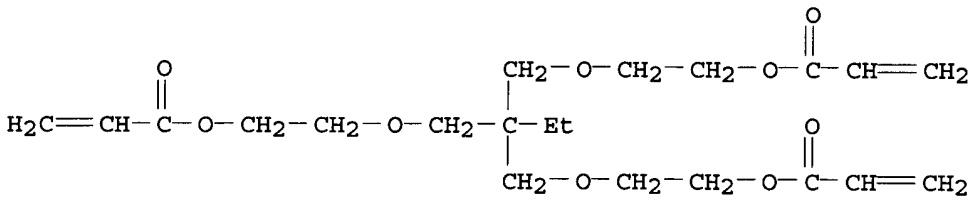


CM 2

CRN 75577-70-7
CMF C21 H32 O9



IC ICM G02B005-30
ICS B29C055-02; C08J005-18; C08K005-03; C08L001-10; C08L067-00; G02F001-1336; B29K001-00; B29L007-00; B29L011-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73

ST cellulose ester optical retarder polarizer liq crystal display; compensator sheet cellulose ester film polarizer

IT Liquid crystal displays
Polarizers
(cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

IT Polyurethanes, properties
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyester-, plasticizer, film contg.; cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

IT Optical instruments
(retarders; cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

IT **460721-29-3P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(anisotropic layer on compensator sheet; cellulose ester **film**, optical **retarder**, optical compensator sheet, and polarizer for liq. crystal display)

IT 9004-35-7, Cellulose acetate
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

IT 460731-44-6
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(plasticizer, film contg.; cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

IT 6079-76-1, 2-Hydroxy-4-benzyloxybenzophenone 295778-30-2
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(retardation controller; cellulose ester film, optical retarder,

optical compensator sheet, and polarizer for liq. crystal display)

IT 82504-70-9
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(retardation controller; cellulose ester film, optical retarder, optical compensator sheet, and polarizer for liq. crystal display)

L25 ANSWER 11 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:539322 CAPLUS
DOCUMENT NUMBER: 137:117017
TITLE: Retardation film for liquid crystal displays and method for manufacturing thereof according to UV-irradiation process
INVENTOR(S): Sakai, Takeya; Uetsuki, Masao; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002202408	A2	20020719	JP 2000-400355	20001228

PRIORITY APPLN. INFO.: JP 2000-400355 20001228

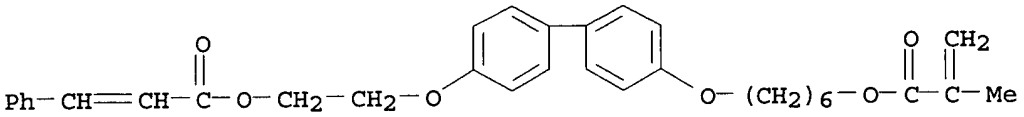
AB The retardation film is manuf. by irradiating a mixt. of a light-sensitive polymer and a low mol. compd. and has 0.01<R80.degree.C/R30.degree.C<0.97 of the ratio of retardation at 30.degree.C and 80 .degree.C at the av. wavelength of visible light region, 1.15<R400 nm/R550 nm of ratio of the retardation at 400 nm and 550 nm, and 0.ltoreq..theta.<90.degree. of the inclination of the optical axis(.theta.). The retardation film shows the good temp. compensation effect and the well controlled optical axis direction.

IT **199534-67-3P 443107-01-5P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**retardation film** for liq. crystal displays)

RN 199534-67-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

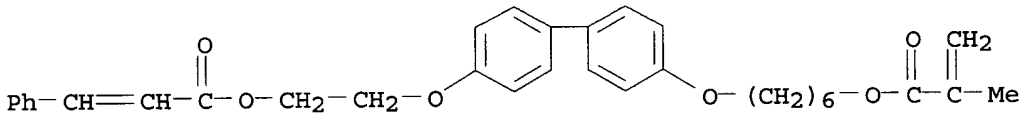
CRN 199534-66-2
CMF C33 H36 O6



RN 443107-01-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

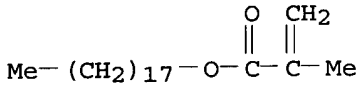
CM 1

CRN 199534-66-2
CMF C33 H36 O6



CM 2

CRN 32360-05-7
CMF C22 H42 O2



IC ICM G02B005-30
ICS G02F001-1336
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST retardation film liq crystal display manufg thereof UV irradn
IT Optical instruments
(optical phase retardation film; retardation film for liq. crystal displays and method for manufg. thereof according to UV-irradn.)
IT Liquid crystal displays
(retardation film for liq. crystal displays and method for manufg. thereof according to UV-irradn.)
IT 92-88-6, 4,4'-Biphenyldiol 107-07-3, 2-Chloroethanol, reactions 629-03-8, 1,6-Dibromohexane 4101-68-2, 1,10-Dibromodecane 4286-55-9 13234-23-6, Lithium methacrylate
RL: RCT (Reactant); RACT (Reactant or reagent)
(retardation film for liq. crystal displays)

KOROMA EIC1700

IT 199534-66-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(retardation film for liq. crystal displays)
IT 126757-88-8P **199534-67-3P** 442638-55-3P **443107-01-5P**
443107-10-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**retardation film** for liq. crystal displays)
IT 63748-28-7, E 7 (Liquid crystal)
RL: TEM (Technical or engineered material use); USES (Uses)
(retardation film for liq. crystal displays)

L25 ANSWER 12 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:539321 CAPLUS
DOCUMENT NUMBER: 137:94907
TITLE: Optical retardation films and their manufacture by polarized and nonpolarized UV radiation
INVENTOR(S): Sakai, Takeya; Uetsuki, Masao; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002202407	A2	20020719	JP 2000-400354	20001228

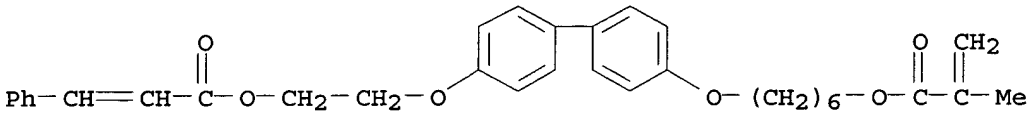
PRIORITY APPLN. INFO.: JP 2000-400354 20001228

AB The films, useful for widening view angles of liq. crystal displays, are manufd. by irradn. of totally polarized and nonpolarized mixt. light to mixt. films of photosensitive polymers and low-mol.-wt. compds. Thus, 3.75% homopolymer of CH2:CMeCO2(CH2)6O-1,4-C6H4-1,4-C6H4O(CH2)2OCOCH:CHPh and 1.25% E7 (liq. crystal) were dissolved in CH2Cl2 and applied on a quartz board, irradiated with UV with a 45.degree. angle via 4 pieces of quartz board from both sides to give an optical retardation film with the optical axis angle 67.degree..

IT **442660-74-4P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of optical **retardation films** by polarized and nonpolarized UV radiation)
RN 442660-74-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, [1,1'-biphenyl]-4,4'-diylbis(oxy-6,1-hexanediyl) ester, polymer with 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

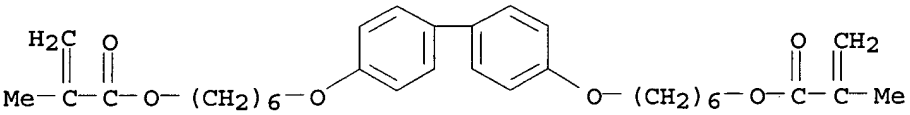
CM 1

CRN 199534-66-2
CMF C33 H36 O6



CM 2

CRN 126757-88-8
CMF C32 H42 O6



IC ICM G02B005-30
ICS C08J005-18; C08K005-00; C08L101-02; G02B001-04; G02F001-1336
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 74
ST optical retardation film polarized nonpolarized UV radiation; photosensitive polymer monomer radiation UV; bromohexyloxy biphenyl methacrylate photocrosslinking optical retardation film; hydroxyethoxy bromohexyloxy biphenyl methacrylate cinnamate polymer photocrosslinking retardation film
IT Optical films
(manuf. of optical retardation films by polarized and nonpolarized UV radiation)
IT Crosslinking
(photochem.; manuf. of optical retardation films by polarized and nonpolarized UV radiation)
IT 183234-53-9P 183234-59-5P 189156-36-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of optical retardation films by polarized and nonpolarized UV radiation)
IT **442660-74-4P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of optical **retardation films** by polarized and nonpolarized UV radiation)
IT 92-88-6, 4,4'-Biphenyldiol 102-92-1, Cinnamoyl chloride 107-07-3, 2-Chloroethanol, reactions 629-03-8, 1,6-Dibromohexane 13234-23-6, Lithium methacrylate 183234-70-0
RL: RCT (Reactant); RACT (Reactant or reagent)

(manuf. of optical retardation films by polarized and nonpolarized UV radiation)

IT 126757-88-8P 199534-66-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and polymn. of; manuf. of optical retardation films by polarized and nonpolarized UV radiation)

L25 ANSWER 13 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:538423 CAPLUS
DOCUMENT NUMBER: 137:116736
TITLE: Optical retarder films with excellent transparency for liquid crystal displays and their manufacture
INVENTOR(S): Sakai, Takeya; Uetsuki, Masao; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002202409	A2	20020719	JP 2000-400356	20001228
US 2002128341	A1	20020912	US 2001-26432	20011227

PRIORITY APPLN. INFO.: JP 2000-400356 A 20001228
JP 2001-196012 A 20010628
JP 2001-196013 A 20010628
JP 2001-271879 A 20010907

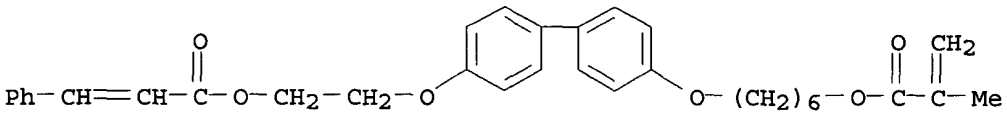
AB The retarder films, showing no microphase sepn., are manufd. by irradn. of films comprising photosensitive polymers (A) and low-mol.-wt. compds. (B) with (inclined) nonpolarized light (on both sides), where ratio of soly. parameter (.delta.; calcd. based on evapn. energy and mol. vol.) of B to that of A satisfy >1.06 and <0.93.

IT **199534-67-3P 199534-70-8P 443124-84-3P 443124-85-4P**
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manuf. of transparent **retarder films** by nonpolarized-light exposure of mesogen-contg. photopolymer films)

RN 199534-67-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

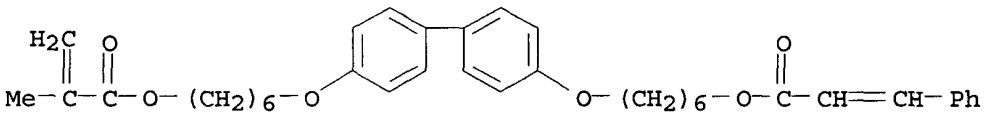
CRN 199534-66-2
CMF C33 H36 O6



RN 199534-70-8 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[[6-[(1-oxo-3-phenyl-2-propenyl)oxy]hexyl]oxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

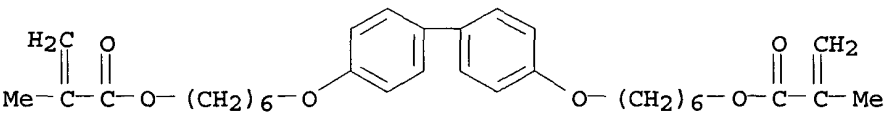
CRN 199534-69-5
CMF C37 H44 O6



RN 443124-84-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, [1,1'-biphenyl]-4,4'-diylbis(oxy-6,1-hexanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

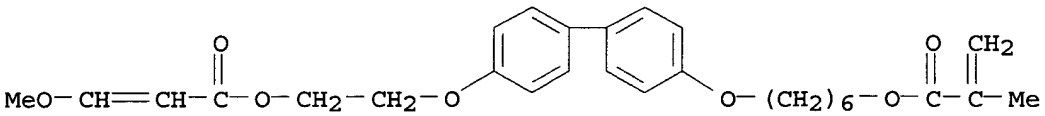
CRN 126757-88-8
CMF C32 H42 O6



RN 443124-85-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[(3-methoxy-1-oxo-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 443124-72-9
CMF C28 H34 O7



IC ICM G02B005-30
ICS C08F002-44; C08F002-48; C08F291-00; G02B001-04; G02F001-1336
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 75
ST nonpolarized light oriented photopolymer film retarder; LCD retarder transparency photopolymer mesogen rearrangement
IT Liquid crystal displays
Liquid crystals
Liquid crystals, polymeric
(manuf. of optical-axes-regulated retarder films for LCD by nonpolarized-light exposure of photopolymers)
IT UV radiation
(manuf. of transparent retarder films by nonpolarized-light exposure of mesogen-contg. photopolymer films)
IT Optical instruments
(retarders, films; manuf. of optical-axes-regulated retarder films for LCD by nonpolarized-light exposure of photopolymers)
IT **199534-67-3P 199534-70-8P** 442638-55-3P 443124-81-0P **443124-84-3P 443124-85-4P**
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manuf. of transparent **retarder films** by nonpolarized-light exposure of mesogen-contg. photopolymer films)
IT 126757-88-8P 183234-53-9P 183234-59-5P 183234-65-3P 183234-70-0P 183234-74-4P 189156-36-3P 199534-66-2P 199534-69-5P 443124-59-2P 443124-72-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of transparent retarder films by nonpolarized-light exposure of mesogen-contg. photopolymer films)
IT 92-88-6, 4,4'-Biphenyldiol 102-92-1, Cinnamoyl chloride 107-07-3, 2-Chloroethanol, reactions 629-03-8, 1,6-Dibromohexane 4286-55-9 13234-23-6, Lithium methacrylate 34446-64-5, 4-Methoxycinnamoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of transparent retarder films by nonpolarized-light exposure of mesogen-contg. photopolymer films)

L25 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:538422 CAPLUS
DOCUMENT NUMBER: 137:101217
TITLE: Retarder films with regulated optical axes for liquid crystal displays and their manufacture
INVENTOR(S): Sakai, Takeya; Uetsuki, Masao; Kawatsuki, Yoshihiro

PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002202406	A2	20020719	JP 2000-400353	20001228

PRIORITY APPLN. INFO.: JP 2000-400353 20001228

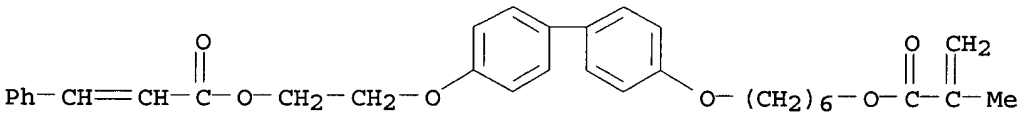
AB The manufg. process involves irradn. of photosensitive polymer films contg. low-mol.-wt. compds. with (inclined) nonpolarized light (on both sides). The photosensitive polymers may be liq. cryst. and the low-mol.-wt. compds. may be mesogens.

IT **199534-67-3P 230296-13-6P 442638-56-4P**
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manuf. of optical-axes-regulated **retarder films** by exposure to nonpolarized light for LCD)

RN 199534-67-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 199534-66-2
CMF C33 H36 O6

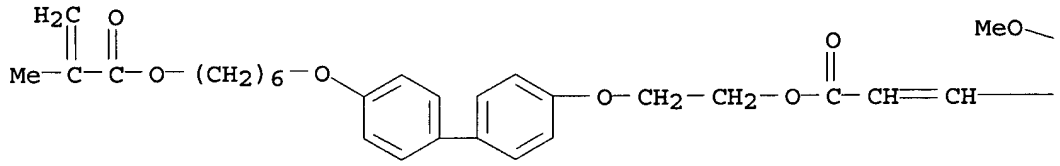


RN 230296-13-6 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[[3-(2-methoxyphenyl)-1-oxo-2-propenyl]oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

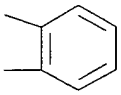
CM 1

CRN 230296-12-5
CMF C34 H38 O7

PAGE 1-A



PAGE 1-B

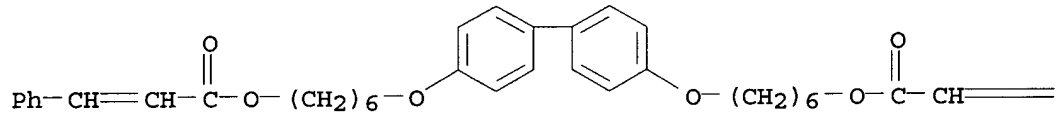


RN 442638-56-4 CAPLUS
CN 2-Propenoic acid, 3-phenyl-, [1,1'-biphenyl]-4,4'-diylbis(oxy-6,1-hexanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 442638-55-3
CMF C42 H46 O6

PAGE 1-A



PAGE 1-B

═CH—Ph

IC ICM G02B005-30
ICS C08F002-48; C08F290-08; C08J005-18; G02B001-04; G02F001-1336; G03F007-004; G03F007-038; C08L101-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 74
ST LCD retarder film regulated optical axis; nonpolarized light exposure LCD retarder manuf
IT Liquid crystals, polymeric

KOROMA EIC1700

(films; manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT UV radiation
(inclined; manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT Liquid crystal displays
(manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT Liquid crystals
(retarder films contg.; manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT Optical instruments
(retarders, films; manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT **199534-67-3P 230296-13-6P 442638-56-4P**
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manuf. of optical-axes-regulated **retarder films** by exposure to nonpolarized light for LCD)

IT 63748-28-7, E7
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT 183234-53-9P 183234-59-5P 183234-70-0P 189156-36-3P 199534-66-2P 230296-12-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

IT 92-88-6, 4,4'-Biphenyldiol 102-92-1, Cinnamoyl chloride 107-07-3, 2-Chloroethanol, reactions 629-03-8, 1,6-Dibromohexane 4286-55-9 13234-23-6, Lithium methacrylate 15851-91-9, 2-Methoxycinnamoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of optical-axes-regulated retarder films by exposure to nonpolarized light for LCD)

L25 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:514329 CAPLUS
DOCUMENT NUMBER: 137:102597
TITLE: Epoxy carboxylates, photopolymer compositions using them, and their cured products useful for printed circuit boards
INVENTOR(S): Koyanagi, Takao; Oshimi, Katsuhiko
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002194051	A2	20020710	JP 2000-394819	20001226

PRIORITY APPLN. INFO.: JP 2000-394819 20001226
OTHER SOURCE(S): MARPAT 137:102597

AB The epoxy carboxylates are prepd. by reaction of **liq. cryst.** epoxy compds. having .gtoreq.1 epoxy group with monocarboxylic acids having unsatd. double bonds. The epoxy compds. may be GO-p-C6H4CR:NN:CRC6H4-p-OG (G = glycidyl; R = H, Me). Photopolymer compns. contg. the epoxy carboxylates, photopolymn. initiators, and optionally crosslinking agents, and their cured products are also claimed. The photopolymer compns. show good **photosensitivity** and give cured products with good adhesion to substrates, hardness, and resistance to solvents, acids, heat, and gold plating, and are useful for solder resists and interlayer dielecs. for printed circuit boards.

IT **441284-35-1P 441284-36-2P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

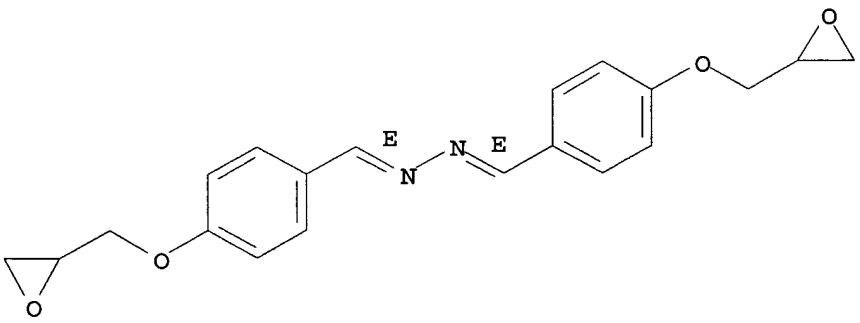
RN 441284-35-1 CAPLUS

CN Hexanoic acid, 6-[(1-oxo-2-propenyl)oxy]-, 2-[[3-[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-2,2-bis[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methyl]propoxy]methyl]-2-[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methyl]-1,3-propanediyl ester, polymer with 2-ethyl-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-propenoic acid and [C(E)]-4-(oxiranylmethoxy)benzaldehyde (2E)-[[4-(oxiranylmethoxy)phenyl]methylene]hydrazone (9CI) (CA INDEX NAME)

CM 1

CRN 441284-34-0
CMF C20 H20 N2 O4

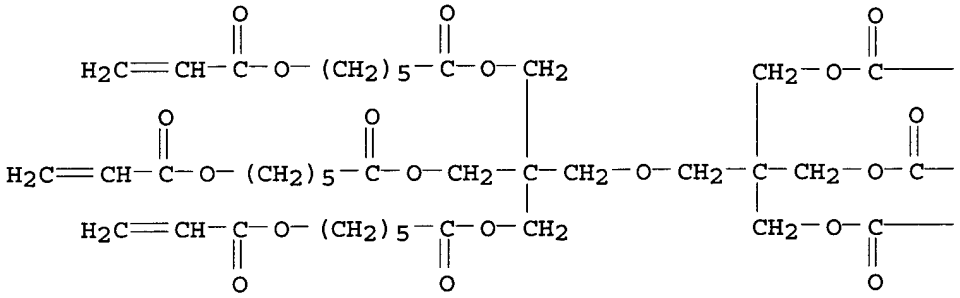
Double bond geometry as shown.



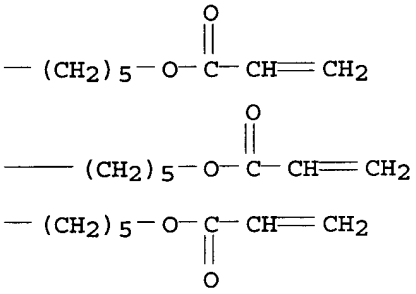
CM 2

CRN 93294-97-4
CMF C64 H94 O25

PAGE 1-A

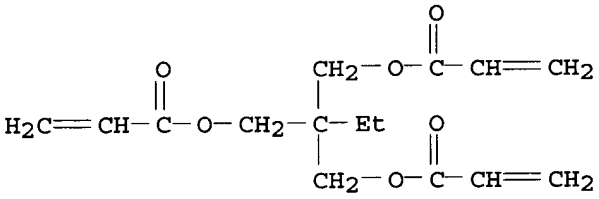


PAGE 1-B



CM 3

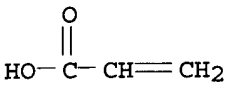
CRN 15625-89-5
CMF C15 H20 O6



CM 4

KOROMA EIC1700

CRN 79-10-7
CMF C3 H4 O2

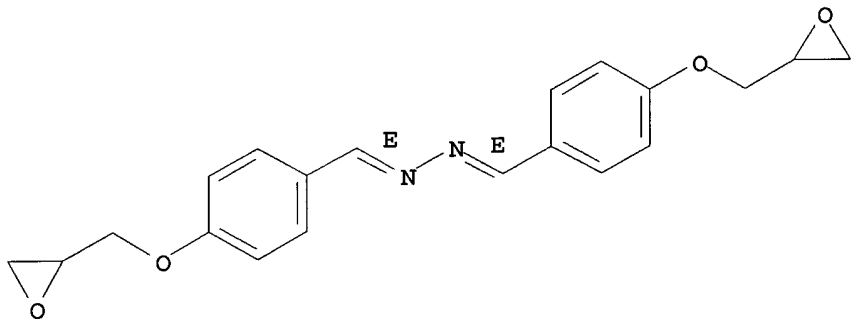


RN 441284-36-2 CAPLUS
CN Hexanoic acid, 6-[(1-oxo-2-propenyl)oxy]-, 2-[[3-[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-2,2-bis[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methyl]propoxy]methyl]-2-[[[1-oxo-6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]methyl]-1,3-propanediyl ester, polymer with [C(E)]-4-(oxiranylmethoxy)benzaldehyde (2E)-[[4-(oxiranylmethoxy)phenyl]methylene]hydrazone and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 441284-34-0
CMF C20 H20 N2 O4

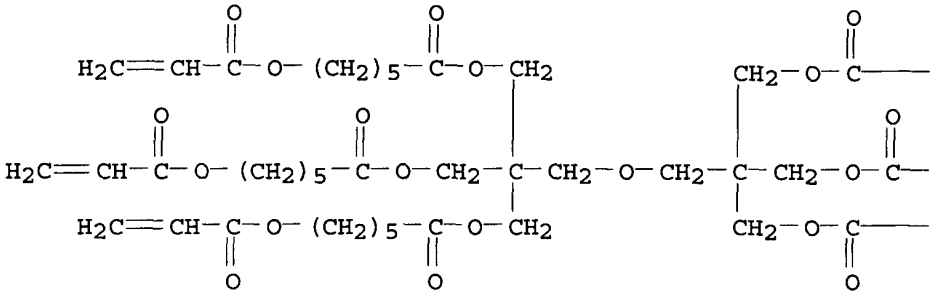
Double bond geometry as shown.



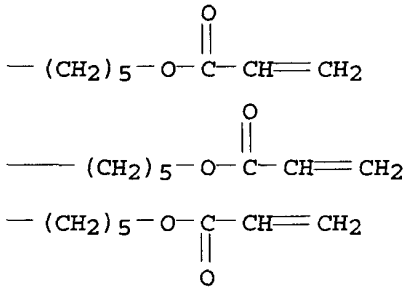
CM 2

CRN 93294-97-4
CMF C64 H94 O25

PAGE 1-A

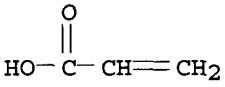


PAGE 1-B



CM 3

CRN 79-10-7
CMF C3 H4 O2



IC ICM C08G059-17
ICS C08G059-18; H05K003-28; H05K003-46; G03F007-027
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 37, 38, 74
ST epoxy unsatd carboxylate photopolymer solder resist; printed circuit board dielec epoxy acrylate; **liq cryst** epoxy acrylate solder resist
IT Epoxy resins, uses
RL: **IMF (Industrial manufacture)**; RCT (Reactant); TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(acrylates; photopolymer compns. contg. **liq. cryst.**

KOROMA EIC1700

epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

IT Epoxy resins, uses
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(acrylic; photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

IT Dielectric **films**
Liquid crystals
Printed circuit boards
Solder resists
(photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

IT 441284-34-0P
RL: **IMF (Industrial manufacture)**; PRP (Properties); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

IT **441284-35-1P 441284-36-2P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

IT 79-10-7, Acrylic acid, reactions 106-89-8, Epichlorohydrin, reactions 123-08-0, p-Hydroxybenzaldehyde 302-01-2, Hydrazine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; photopolymer compns. contg. **liq. cryst.** epoxy carboxylates for solder resists and dielecs. for printed circuit boards)

L25 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:514074 CAPLUS
DOCUMENT NUMBER: 137:64277
TITLE: Cellulose acetate laminated films with good adhesion to hydrophilic polymers and their optical and photographic uses
INVENTOR(S): Murayama, Masahiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002192656	A2	20020710	JP 2000-393431	20001225

PRIORITY APPLN. INFO.: JP 2000-393431 20001225

AB The laminated film, useful for retarders, polarizers, liq. crystal displays (LCD), photog. films, etc., comprises a main film of a cellulose acetate (I) with acetylation degree 2.5-3.0 and at least on one side a layer of I with acetylation degree 0.5-2.2 (<2.2) by 0.1-100 g/m2. Thus, I with acetylation degree 2.9 and I with acetylation degree 1.8 were co-extruded to give a laminate showing surface energy 60 mN/m and surface resistivity 0.5 .times. 1010 .OMEGA..

IT **439689-44-8P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**retarder**; cellulose acetate laminated **films** with good adhesion to hydrophilic polymers for optical and photog. uses)

RN 439689-44-8 CAPLUS

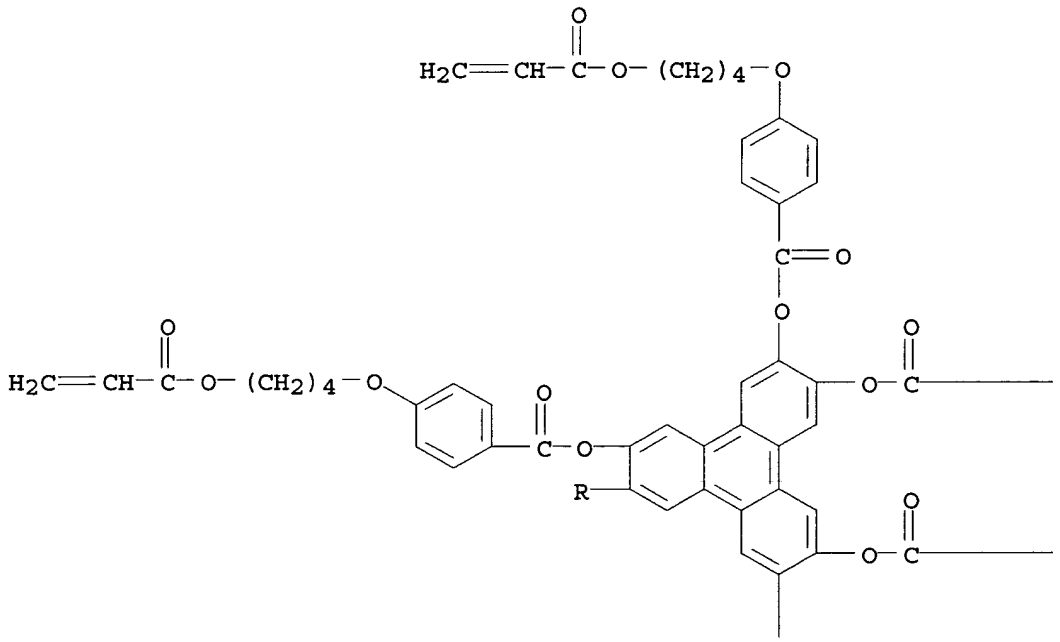
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 2,3,6,7,10,11-triphenylenehexayl ester, polymer with 2-ethyl-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

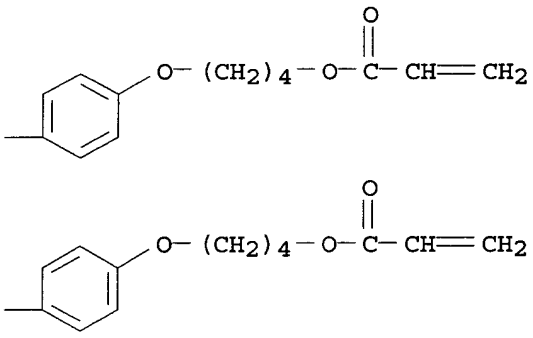
CRN 174079-42-6

CMF C102 H96 O30

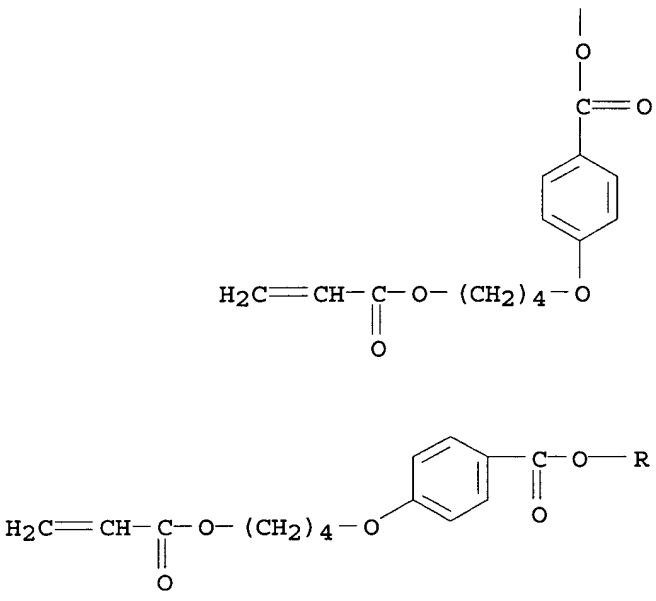
PAGE 1-A



PAGE 1-B

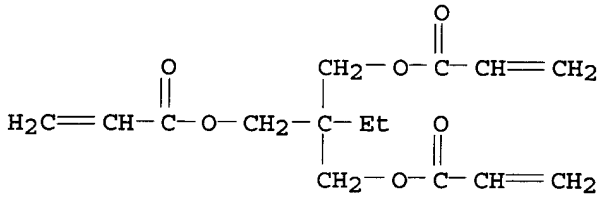


PAGE 2-A



CM 2

CRN 15625-89-5
CMF C15 H20 O6



IC ICM B32B023-00
ICS B29C041-32; G02F001-1335; G02F001-1336; B29K001-00; B29L007-00; B29L009-00; B29L011-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 74

ST cellulose acetate laminate adhesion retarder LCD; photog film cellulose acetate acetylation degree; polarizer cellulose acetate hydrophilic polymer adhesion

IT Polyesters, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, retarder; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT Liquid crystal displays
Photographic films
Polarizing films
Transparent films
(cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT Gelatins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(photog. film, adhesion to; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT Optical instruments
(retarders; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 9035-69-2, Cellulose diacetate
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive layer; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 139352-17-3, MP 203 182154-45-6, Vinyl acetate-vinyl alcohol-vinyl [4-(4-acryloxytetramethylene)oxy)benzoate copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(alignment film, adhesion to; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 9004-35-7, Cellulose acetate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 9002-89-5, Polyvinyl alcohol

RL: TEM (Technical or engineered material use); USES (Uses)
(polarizer, protective films for; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 82504-70-9
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(retardation improver; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 75577-71-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(retarder; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

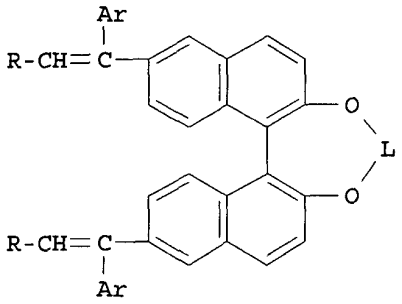
IT **439689-44-8P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**retarder**; cellulose acetate laminated **films** with good adhesion to hydrophilic polymers for optical and photog. uses)

IT 9004-36-8, Cellulose, acetate butanoate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(retarder; cellulose acetate laminated films with good adhesion to hydrophilic polymers for optical and photog. uses)

L25 ANSWER 17 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:482652 CAPLUS
DOCUMENT NUMBER: 137:70829
TITLE: Preparation of optically active binaphthol derivative as photoreactive chiral reagent and **liquid crystal** composition, method for alteration or fixation of **liquid crystal** spiral structure, **liquid crystal** color filter, optical **film**, and optical recording medium
INVENTOR(S): Yumoto, Masatoshi; Hayashi, Keiichiro; Ichihashi, Mitsuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002179670	A2	20020626	JP 2000-381002	20001214

PRIORITY APPLN. INFO.: JP 2000-381002 20001214
OTHER SOURCE(S): MARPAT 137:70829
GI



I

AB The title compd. [(R)- or (S)-I; Ar = aryl, heterocyclyl; R = alkoxycarbonyl, aryloxycarbonyl, aryl, heterocyclyl, CONH2, cyano; L =a divalent group], which is photoisomerizable and can alter a spiral structure [twisting power or angle, in particular helical twisting power (HTP)] of **liq. crystal** upon light irradn. to provide a image display with high contrast and color purity, is prepd. Also disclosed is a **liq. crystal** compn. contg. a **liq. crystal** compd. contg. at least one polymerizable group, a photopolymn. initiator, and the optically active compd. I, in particular where the photopolymn. initiator and the optically active compd. I have a different **photosensitive** wavelength region. The spiral structure of the **liq. crystal** compn. is altered by by changing the structure of the optically active compd. I upon photoirradn. of the above **liq. crystal** compn. A method for fixation of the spiral structure of the **liq. crystal** possesses a step comprising image-wise irradn. of the above **liq. crystal** compn. with light at the **photosensitive** wavelength region of the optically active compd. I and subsequent photopolymn. by irradn. with light at the **photosensitive** wavelength region of the photopolymn. initiator. A **liq. crystal** color filter, an optical **film**, and a recording medium contg. at least one **liq. crystal** compd. and the above optically active compd. I are also disclosed. Thus, (S)-2,2'-methylenedioxy-6,6'-dibromo-1,1'-binaphthol 1.6, Me 4-methoxycinnamate 1.5, dichlorobis(triphenylphosphine)palladium(II) 0.12, Bu4NBr 2.6, K2CO3 1.0 g and 20 mL DMF were mixed and stirred at room temp. for 10 h to give 7.6% (S)-I (Ar = 4-methoxyphenyl, R = MeO2C) (II) in E/Z ratio of 19/1. When a nematic **liq. crystal** compn. contg. 0.5 part II and 99.5 part ZLI-1132 having a spiral pitch of 55.6 .mu.m (HTP of 3.6 .mu.m-1) was irradiated by a high-pressure mercury lamp (300 mW/cm2) for 3 min, a spiral pitch changed to 5.11 .mu.m (HTP of 39 .mu.m-1). A circular polarized light reflecting plate, a **liq. crystal** color filter, and a super-twisted-nematic **liq. crystal** display (STN) device optical compensation **film** with a polymer **film** contg. II were also fabricated.

IT **439683-85-9P**
RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)

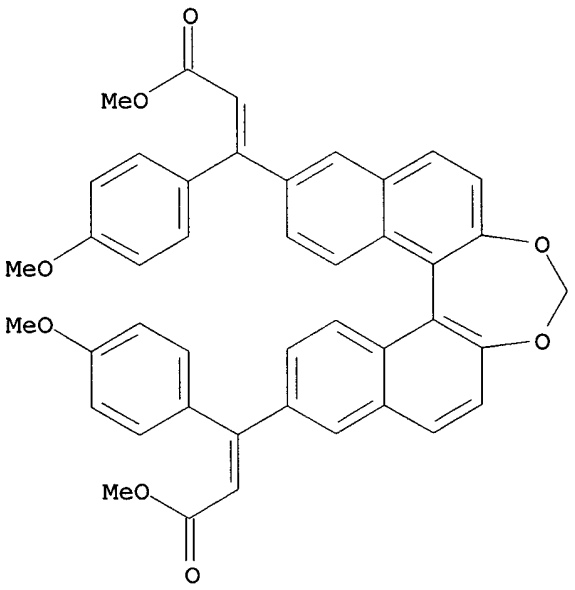
(STN device optical compensation **film**; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**, and optical recording medium)

RN 439683-85-9 CAPLUS

CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 2,6-naphthalenediyl ester, polymer with 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], mixt. with dimethyl 3,3'-(11bS)-dinaphtho[2,1-d:1',2'-f][1,3]dioxepin-9,14-diylbis[(2E)-3-(4-methoxyphenyl)-2-propenoate] and phenylbis(2,4,6-trimethylbenzoyl)phosphine oxide (9CI) (CA INDEX NAME)

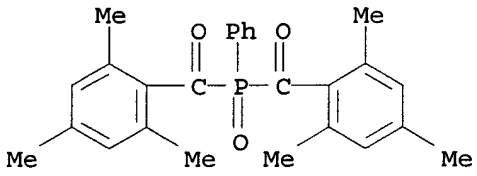
CM 1

CRN 439683-72-4
CMF C43 H34 O8



CM 2

CRN 162881-26-7
CMF C26 H27 O3 P



CM 3

CRN 339588-80-6
CMF (C38 H36 O10 . C34 H34 O10)x
CCI PMS

CM 4

CRN 339588-79-3
CMF C38 H36 O10

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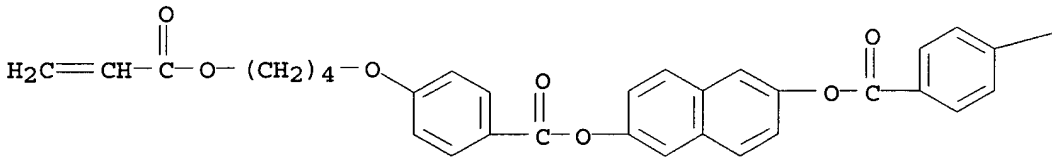
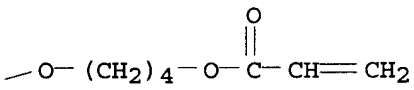


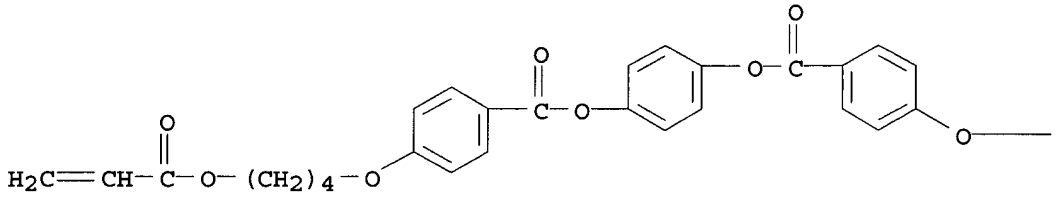
PAGE 1-B



CM 5

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A



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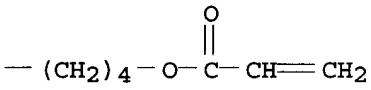


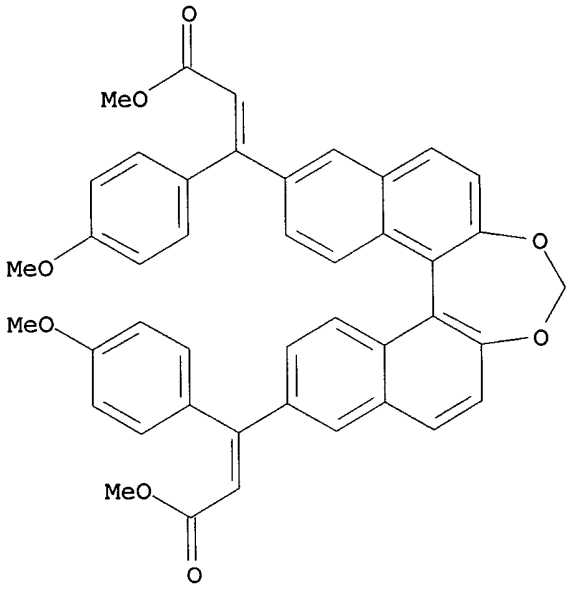
IT **439683-80-4P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(circular polarized light reflecting plate; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq . crystal** color filter, optical **film**, and optical recording medium)

RN 439683-80-4 CAPLUS

CN D-Glucitol, 1,4:3,6-dianhydro-, bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], polymer with 2,6-naphthalenediyl bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate] and 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], mixt. with 4-(2H-benzotriazol-2-yl)-1,3-benzenediol, 2-(4-chlorophenyl)-4,6-bis(trichloromethyl)-1,3,5-triazine and dimethyl 3,3'-(11bS)-dinaphtho[2,1-d:1',2'-f][1,3]dioxepin-9,14-diylbis[(2E)-3-(4-methoxyphenyl)-2-propenoate] (9CI) (CA INDEX NAME)

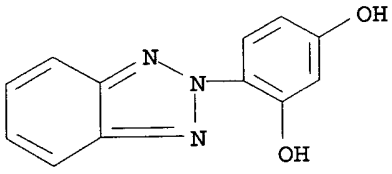
CM 1

CRN 439683-72-4
CMF C43 H34 O8



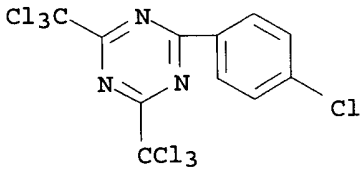
CM 2

CRN 22607-31-4
CMF C12 H9 N3 O2



CM 3

CRN 3712-60-5
CMF C11 H4 Cl7 N3



KOROMA EIC1700

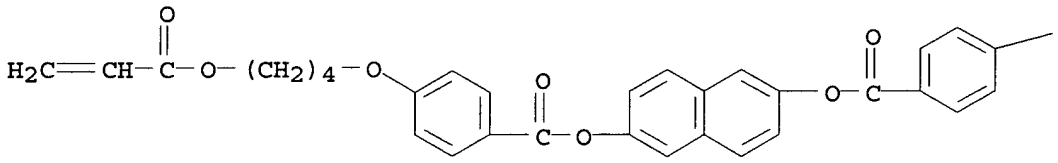
CM 4

CRN 387822-81-3
CMF (C38 H36 O10 . C34 H38 O12 . C34 H34 O10)x
CCI PMS

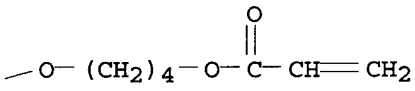
CM 5

CRN 339588-79-3
CMF C38 H36 O10

PAGE 1-A



PAGE 1-B

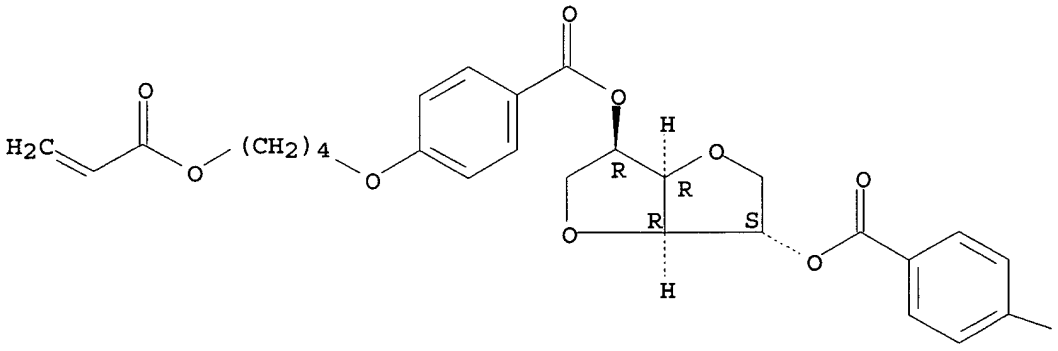


CM 6

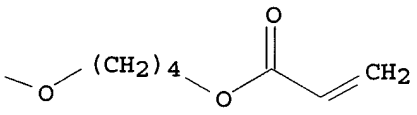
CRN 250230-59-2
CMF C34 H38 O12

Absolute stereochemistry.

PAGE 1-A



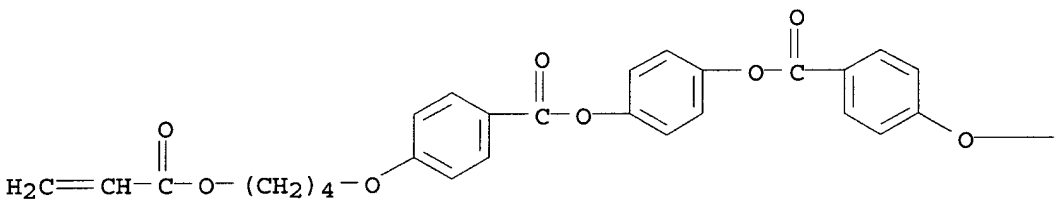
PAGE 1-B



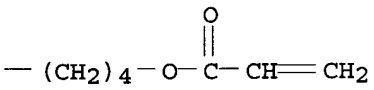
CM 7

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A



PAGE 1-B



IT **439683-83-7P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** color filter; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**,

KOROMA EIC1700

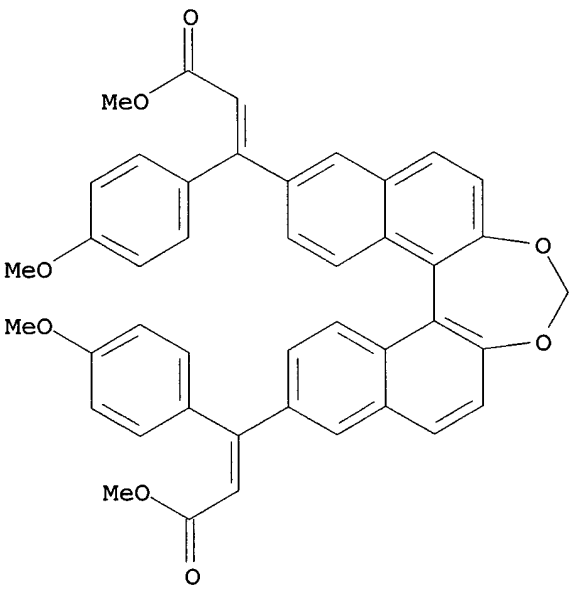
and optical recording medium)

RN 439683-83-7 CAPLUS

CN D-Glucitol, 1,4:3,6-dianhydro-, bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], polymer with dimethyl 3,3'-(11bS)-dinaphtho[2,1-d:1',2'-f][1,3]dioxepin-9,14-diylbis[(2E)-3-(4-methoxyphenyl)-2-propenoate], 2,6-naphthalenediyl bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate] (9CI) (CA INDEX NAME)

CM 1

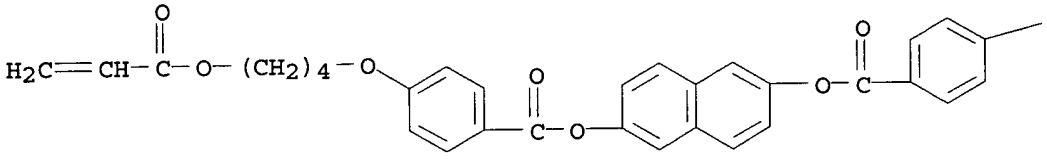
CRN 439683-72-4
CMF C43 H34 O8



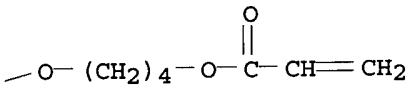
CM 2

CRN 339588-79-3
CMF C38 H36 O10

PAGE 1-A



PAGE 1-B

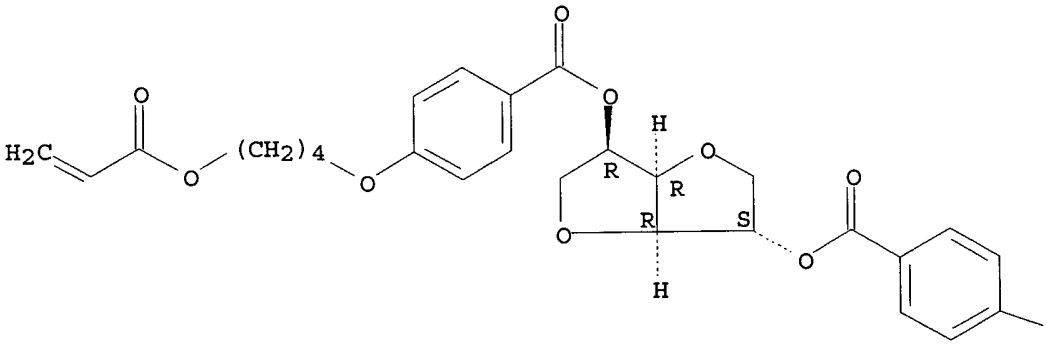


CM 3

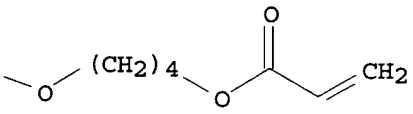
CRN 250230-59-2
CMF C34 H38 O12

Absolute stereochemistry.

PAGE 1-A



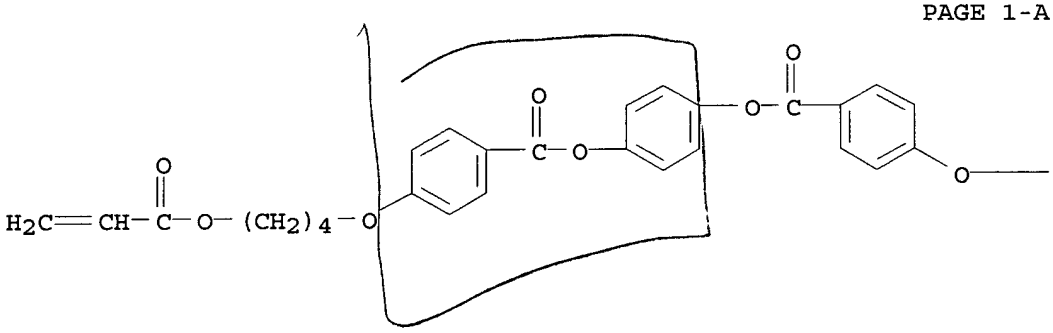
PAGE 1-B



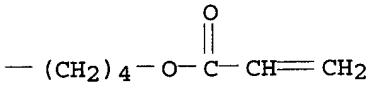
CM 4

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A

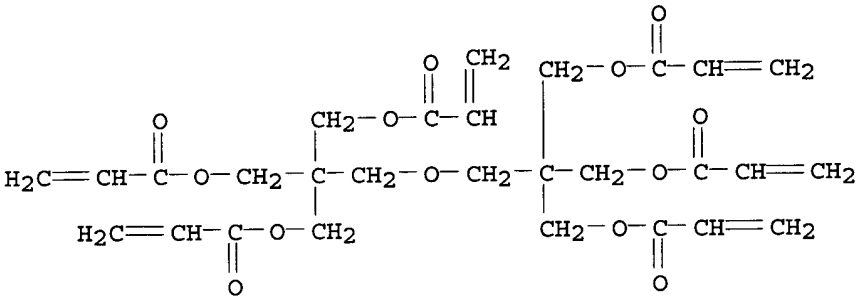


PAGE 1-B



CM 5

CRN 29570-58-9
CMF C28 H34 O13



IC ICM C07D321-10
ICS C07D407-06; C07D493-04; C09K019-38; C09K019-54; G02B005-20; G02B005-30; G02F001-13; G02F001-1335; G03C001-73

CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 74

ST optically active binaphthol prepn photoreactive chiral reagent **liq crystal**; photoisomerizable optically active binaphthol prepn **liq crystal** compn; spiral structure fixation photopolymn

IT Isomerization
(cis-trans, photochem.; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

IT Optical filters
(**liq. crystal**; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**, and optical recording medium)

IT **Liquid crystals**
(nematic; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

IT **Liquid crystal** displays
Liquid crystals
Liquid crystals, polymeric
Optical **films**
Optical recording materials
Polarizing **films**
(prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

IT **439683-85-9P**
RL: DEV (Device component use); PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)

(STN device optical compensation **film**; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**, and optical recording medium)

IT **439683-80-4P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(circular polarized light reflecting plate; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**, and optical recording medium)

IT **439683-83-7P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** color filter; prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** color filter, optical **film**, and optical recording medium)

IT 439683-73-5P
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

IT 832-01-9, Methyl 4-methoxycinnamate 180135-89-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

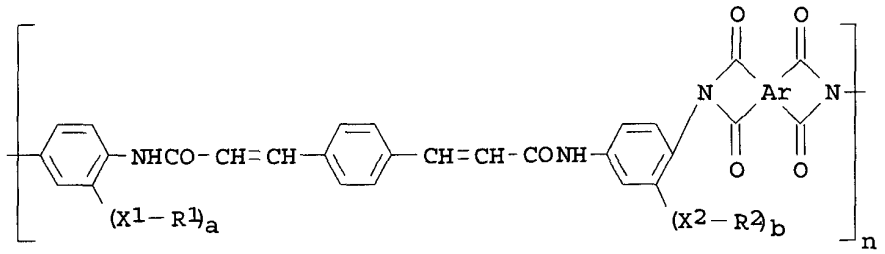
IT 439683-72-4P
RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(prepn. of optically active binaphthol deriv. as photoisomerizable chiral reagent and **liq. crystal** compn. and alteration or fixation of **liq. crystal** spiral structure, **liq. crystal** color filter, optical **film**, and optical recording medium)

L25 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:353997 CAPLUS
DOCUMENT NUMBER: 136:361937
TITLE: Polyamideimide photoalignment materials for **liquid crystal** display device
INVENTOR(S): Shin, Hyun Ho; Nam, Mi Sook; Park, Su Hyun; Ree, Moonhor; Lee, Seung Woo

PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002054967	A1	20020509	US 2001-946624	20010906

PRIORITY APPLN. INFO.: KR 2000-63685 A 20001028
OTHER SOURCE(S): MARPAT 136:361937
GI



I

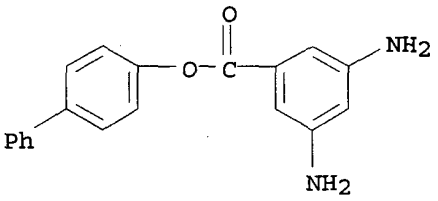
AB Disclosed are polyamideimide photoalignment materials having a **photosensitive** diamine deriv. compd. with side branches, and **liq. crystal** display devices using such a photoalignment material, beneficially as an alignment **film**. The polyamideimide photoalignment materials have a chem. structure of the general formula I (a, b = 0-4; X1, X2 = -CH2-, -CH=, -O-, -COO-, -OOC-, -NHCO-, -CONH-; R1, R2 = H, halogen, cyano, nitro, amino, C1-100-alkyl, haloalkyl, cyanoalkyl, nitroalkyl, hydroxyalkyl, cyanohaloalkyl, nitrohaloalkyl, cyanonitroalkyl, hydroxyhaloalkyl, cyanohydroxyalkyl, hydroxynitroalkyl, C6-100-aryl, alkylaryl, haloaryl, haloalkylaryl, nitroaryl, nitroalkylaryl, cyanoaryl, cyanoalkylaryl, nitroaryl, nitroalkylaryl, hydroxyaryl, hydroxyalkylaryl, cyanohaloaryl, cyanohaloalkylaryl; and Ar as further defined in the claims). The present invention provides photoalignment polyamideimid materials which have good photoalignment properties, increase pretilt angle and improve viewing angle of the **liq. crystal** display.

IT **422294-28-8P 422294-30-2P 422294-32-4P**
422294-34-6P
RL: DEV (Device component use); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)
(polyamideimide photoalignment materials for **liq. crystal** display device)

RN 422294-28-8 CAPLUS
CN Benzoic acid, 3,5-diamino-, [1,1'-biphenyl]-4-yl ester, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 3,3'-(1,4-phenylene)bis[2-propenoic acid] (9CI) (CA INDEX NAME)

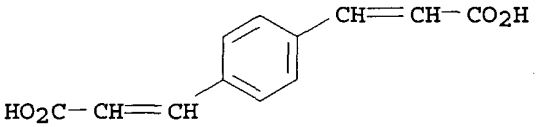
CM 1

CRN 136951-59-2
CMF C19 H16 N2 O2



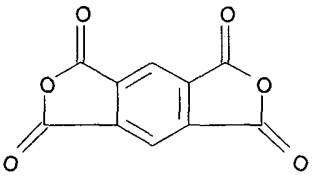
CM 2

CRN 16323-43-6
CMF C12 H10 O4



CM 3

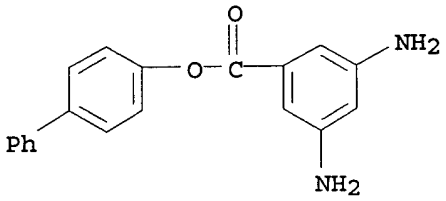
CRN 89-32-7
CMF C10 H2 O6



RN 422294-30-2 CAPLUS
CN Benzoic acid, 3,5-diamino-, [1,1'-biphenyl]-4-yl ester, polymer with [5,5'-biisobenzofuran]-1,1',3,3'-tetrone and 3,3'-(1,4-phenylene)bis[2-propenoic acid] (9CI) (CA INDEX NAME)

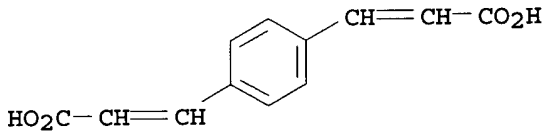
CM 1

CRN 136951-59-2
CMF C19 H16 N2 O2



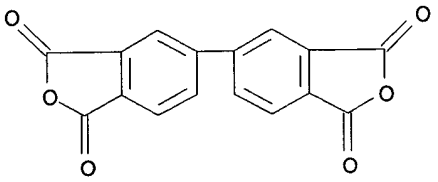
CM 2

CRN 16323-43-6
CMF C12 H10 O4



CM 3

CRN 2420-87-3
CMF C16 H6 O6

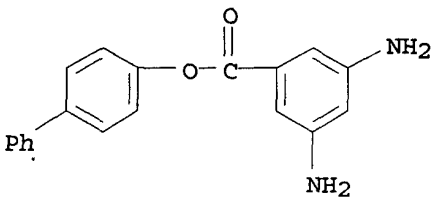


RN 422294-32-4 CAPLUS
CN Benzoic acid, 3,5-diamino-, [1,1'-biphenyl]-4-yl ester, polymer with 5,5'-oxybis[1,3-isobenzofurandione] and 3,3'-(1,4-phenylene)bis[2-propenoic acid] (9CI) (CA INDEX NAME)

CM 1

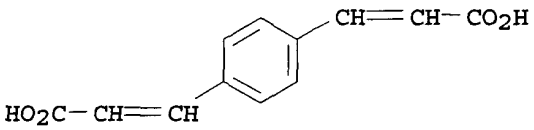
CRN 136951-59-2

CMF C19 H16 N2 O2



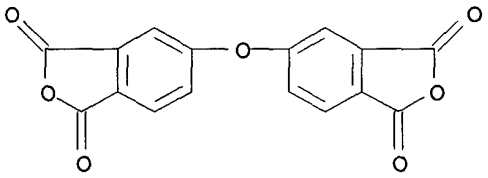
CM 2

CRN 16323-43-6
CMF C12 H10 O4



CM 3

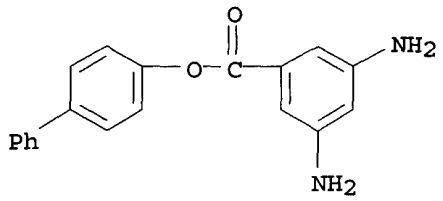
CRN 1823-59-2
CMF C16 H6 O7



RN 422294-34-6 CAPLUS
CN Benzoic acid, 3,5-diamino-, [1,1'-biphenyl]-4-yl ester, polymer with 3,3'-(1,4-phenylene)bis[2-propenoic acid] and 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

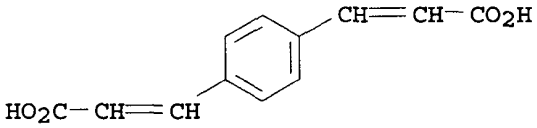
CM 1

CRN 136951-59-2
CMF C19 H16 N2 O2



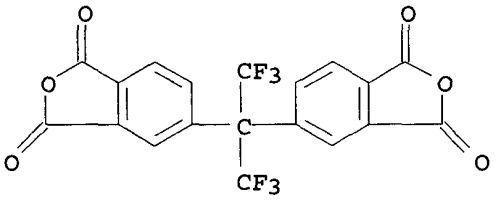
CM 2

CRN 16323-43-6
CMF C12 H10 O4



CM 3

CRN 1107-00-2
CMF C19 H6 F6 O6



IC ICM C09K019-00
ICS G02F001-13; B32B003-06
NCL 428001260
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38
ST polyamideimide photoalignment material **liq crystal** display
IT Polyimides, preparation
RL: DEV (Device component use); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)
(polyamide-; polyamideimide photoalignment materials for **liq. crystal** display device)
IT **Liquid crystal** displays

KOROMA EIC1700

(polyamideimide photoalignment materials for **liq.** **crystal** display device)

IT Polyamides, preparation
RL: DEV (Device component use); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)
(polyimide-; polyamideimide photoalignment materials for **liq.** **crystal** display device)

IT 92-69-3, 4-Phenyl phenol 535-87-5, 3,5-Diaminobenzoic acid 16323-43-6, 1,4-Phenylene diacrylic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of diamine deriv.)

IT 136951-59-2P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(in prepn. of **photosensitive** arom. polyamideimide photoalignment material)

IT **422285-24-3P 422294-28-8P 422294-30-2P 422294-32-4P 422294-34-6P**
RL: DEV (Device component use); **SPN (Synthetic preparation)**; **PREP (Preparation)**; USES (Uses)
(polyamideimide photoalignment materials for **liq.** **crystal** display device)

L25 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:313284 CAPLUS
DOCUMENT NUMBER: 136:332868
TITLE: Optical retardation film and elliptically polarizing film using it
INVENTOR(S): Tanaka, Koichi
PATENT ASSIGNEE(S): Nippon Kayaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002122733	A2	20020426	JP 2000-314573	20001016

PRIORITY APPLN. INFO.: JP 2000-314573 20001016

AB The optical retardation film comprises a polymer film successively coated with a gelatin layer and a liq. crystal layer. The film is manufd. by (1) forming a gelatin layer on a long-sized polymer film, (2) rubbing the gelatin layer and forming the liq. crystal layer to align the liq. crystal layer at the direction other than the rubbing direction. Elliptically polarizing film comprising the optical retardation film and a polarizing film, its manuf., and a liq. crystal display using the optical retarder or the polarizing film are also claimed. The film is manufd. easily and has slow axis at direction other than longitudinal direction.

IT **412334-48-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
(optical **retardation film** comprising polymer
film coated with gelatin and liq. crystal layers)

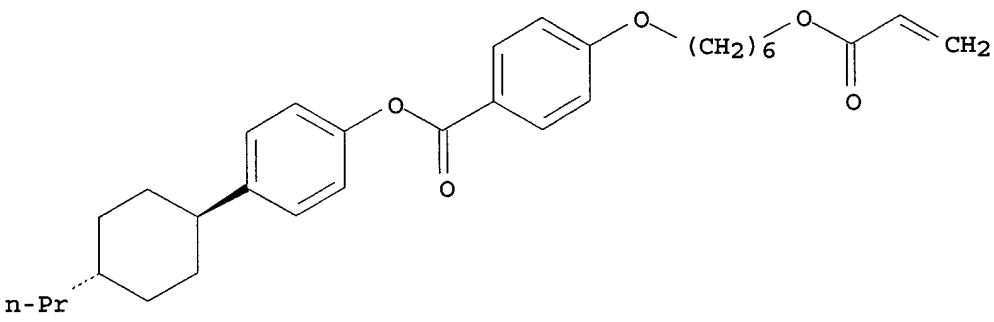
RN 412334-48-6 CAPLUS

CN Benzoic acid, 4-[[6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-, 4-(trans-4-propylcyclohexyl)phenyl ester, polymer with 4-cyanophenyl 4-[[5-[(1-oxo-2-propenyl)oxy]pentyl]oxy]benzoate and 2-methyl-1,4-phenylene bis[4-[3-[(1-oxo-2-propenyl)oxy]propoxy]benzoate] (9CI) (CA INDEX NAME)

CM 1

CRN 182311-45-1
CMF C31 H40 O5

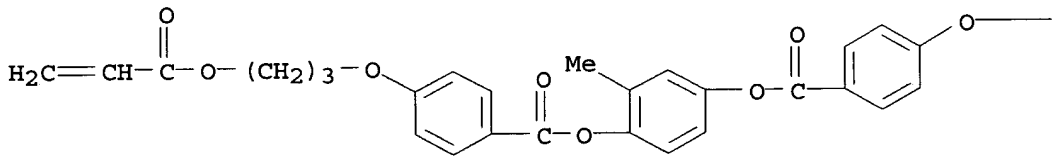
Relative stereochemistry.



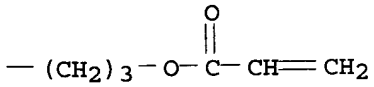
CM 2

CRN 174063-87-7
CMF C33 H32 O10

PAGE 1-A

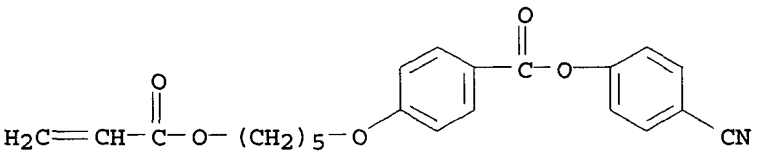


PAGE 1-B



CM 3

CRN 114383-68-5
CMF C22 H21 N O5



IC ICM G02B005-30
ICS G02F001-1336
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST optical retardation film long sized polymer gelatin; elliptical polarizer liq crystal display device
IT Polarizers
(elliptical; elliptical optical polarizer using optical retarder and polarizing film)
IT Liquid crystal displays
(liq. crystal display using optical retarder comprising polymer coated with gelatin and liq. crystal)
IT Gelatins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(optical retardation film comprising polymer film coated with gelatin and liq. crystal layers)
IT Optical instruments
(retarders; optical retardation film comprising polymer film coated with gelatin and liq. crystal layers)
IT **412334-48-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(optical **retardation film** comprising polymer **film** coated with gelatin and liq. crystal layers)
IT 9012-09-3, TD 80U
RL: TEM (Technical or engineered material use); USES (Uses)
(optical retardation film comprising polymer film coated with gelatin and liq. crystal layers)

L25 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:265326 CAPLUS
DOCUMENT NUMBER: 136:301867
TITLE: Overcoat **film** and multilayer spacer **film** for **liquid crystal** displays
INVENTOR(S): Saito, Manabu

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002107535	A2	20020410	JP 2000-303643	20001003

PRIORITY APPLN. INFO.: JP 2000-303643 20001003

AB The invention relates to an overcoat **film** (or protective **film**) and a multilayer spacer **film** for **liq**. **crystal** displays which do not form bubbles in the overcoat layer formed over a step between a black matrix and a color pixel. The overcoat **film** comprises (1) a 1st **film**, (2) a spacer resin layer made from a **photosensitive** resin compn., (3) an overcoat resin layer made from a translucent resin, and (4) 2nd **film**, wherein the spacer resin layer has a fluidity 100-600 .mu.m.

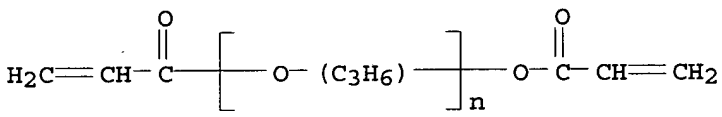
IT **408518-94-5P**, 2-Ethylhexyl acrylate-methacrylic acid-Methyl methacrylate-styrene-glycidyl methacrylate-BPE 500-trimethylhexamethylene diisocyanate-cyclohexanedimethanol-2-hydroxyethyl acrylate-APG 400 copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(overcoat **film** and multilayer spacer **film** for **liq**. **crystal** displays)

RN 408518-94-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with cyclohexanedimethanol, 1,6-diisocyanatotrimethylhexane, ethenylbenzene, 2-ethylhexyl 2-propenoate, 2-hydroxyethyl 2-propenoate, .alpha.,.alpha.'-[(1-methylethylidene)di-4,1-phenylene]bis[.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)], methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

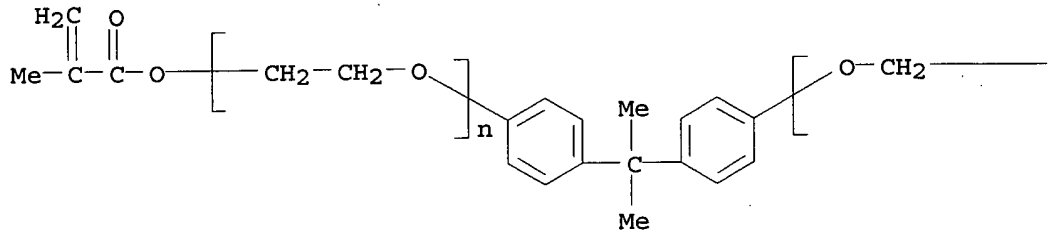
CRN 52496-08-9
CMF (C3 H6 O)n C6 H6 O3
CCI IDS, PMS



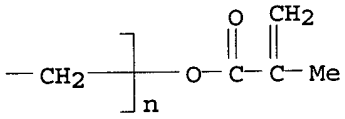
CM 2

CRN 41637-38-1
CMF (C2 H4 O)n (C2 H4 O)n C23 H24 O4
CCI PMS

PAGE 1-A

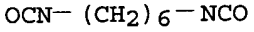


PAGE 1-B



CM 3

CRN 28679-16-5
CMF C11 H18 N2 O2
CCI IDS



3 (D1—Me)

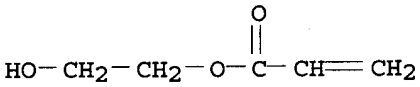
CM 4

CRN 27193-25-5
CMF C8 H16 O2
CCI IDS

2 [D1—CH_2—OH]

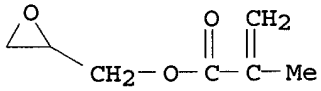
CM 5

CRN 818-61-1
CMF C5 H8 O3



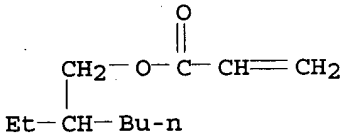
CM 6

CRN 106-91-2
CMF C7 H10 O3



CM 7

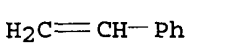
CRN 103-11-7
CMF C11 H20 O2



CM 8

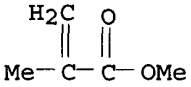
KOROMA EIC1700

CRN 100-42-5
CMF C8 H8



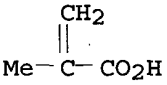
CM 9

CRN 80-62-6
CMF C5 H8 O2



CM 10

CRN 79-41-4
CMF C4 H6 O2



IC ICM G02B005-20
ICS G02F001-1339; G09F009-30; G03F007-004
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 42
ST overcoat **film** spacer **liq crystal** display
IT **Liquid crystal** displays
(overcoat **film** and multilayer spacer **film** for **liq. crystal** displays)
IT **408518-94-5P**, 2-Ethylhexyl acrylate-methacrylic acid-Methyl methacrylate-styrene-glycidyl methacrylate-BPE 500-trimethylhexamethylene diisocyanate-cyclohexanedimethanol-2-hydroxyethyl acrylate-APG 400 copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(overcoat **film** and multilayer spacer **film** for **liq. crystal** displays)
IT 114866-51-2, HX-2000
RL: TEM (Technical or engineered material use); USES (Uses)
(overcoat **film** and multilayer spacer **film** for **liq. crystal** displays)

L25 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:253250 CAPLUS
DOCUMENT NUMBER: 136:295799
TITLE: Optical compensation sheets, method for orientation of rod-shaped **liquid-crystalline** molecules and polarizing panels of LCD devices
INVENTOR(S): Negoro, Masayuki; Kawada, Tadashi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002098836	A2	20020405	JP 2001-97169	20010329
US 2002048639	A1	20020425	US 2001-819804	20010329
US 6531195	B2	20030311		

PRIORITY APPLN. INFO.: JP 2000-91708 A 20000329
JP 2000-174829 A 20000612
JP 2000-219572 A 20000719

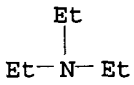
AB The compensation sheets are made from acrylic acid copolymers bearing C10-100 hydrocarbyl pendants, fluorohydrocarbyl pendants or cyclic structure units linking to main chain, and used in LCD devices with polarizing panels over a **liq.-cryst.** cell for improving display performance. Thus, bar coating a soln. of Et3N-neutralized copolymer of acrylic acid and acrylic acid amide compd. with 4-(phenylethynyl)aniline in a 30:70 MeOH-water mixt. on the surface of a glass panel to 1 .mu.m thickness, drying at 120.degree. for 5 min, and rubbing gave an orientation **film** which was then coated to 0.7 .mu.m thickness with a soln. of CH2:CHC(O)OC4H8O-p-C6H4C(O)O-p-C6H4OC(O)-p-C6H4OC4H8OC(O)CH:CH2 (rod-shaped **liq.-cryst**. mol.) 100, Irgacure 907 (photoinitiator) 3 and Kayacure DETX (**photosensitizer**) 1 in MEK 400 parts, dried at 100.degree. for 1 min and irradiated with UV light to give a coated **film** with the rod-shaped **liq.-cryst.** mol. oriented in a right angle to the rubbing direction.

IT **407607-86-7P 407607-91-4P**
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(compensation sheet former; optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

RN 407607-86-7 CAPLUS
CN 2-Propenoic acid, polymer with N-[4-(phenylethynyl)phenyl]-2-propenamide, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

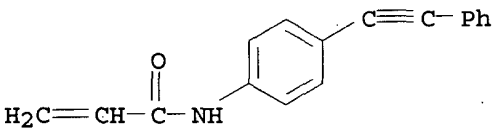


CM 2

CRN 326821-71-0
CMF (C17 H13 N O . C3 H4 O2)x
CCI PMS

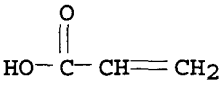
CM 3

CRN 326821-70-9
CMF C17 H13 N O



CM 4

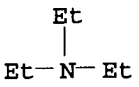
CRN 79-10-7
CMF C3 H4 O2



RN 407607-91-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 4-[(2-methyl-1-oxo-2-propenyl)amino]-N-[4-(phenylethynyl)phenyl]benzamide, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

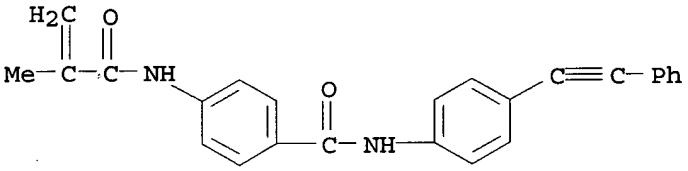


CM 2

CRN 407607-90-3
CMF (C25 H20 N2 O2 . C4 H6 O2)x
CCI PMS

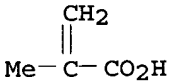
CM 3

CRN 407607-89-0
CMF C25 H20 N2 O2



CM 4

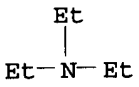
CRN 79-41-4
CMF C4 H6 O2



IT **407607-94-7P 407608-00-8P 407608-03-1P**
407608-10-0P 407608-13-3P 407608-17-7P
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)
RN 407607-94-7 CAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 2-methyl-N-[4-(phenylethynyl)phenyl]-2-propenamide, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

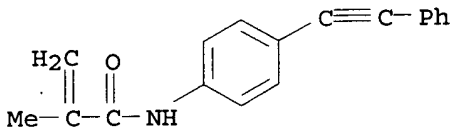


CM 2

CRN 407607-93-6
CMF (C18 H15 N O . C4 H6 O2)x
CCI PMS

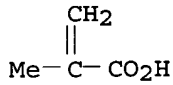
CM 3

CRN 404029-95-4
CMF C18 H15 N O



CM 4

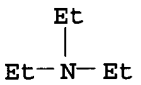
CRN 79-41-4
CMF C4 H6 O2



RN 407608-00-8 CAPLUS
CN 2-Propenoic acid, polymer with 4-ethenyl-1,1'-biphenyl, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

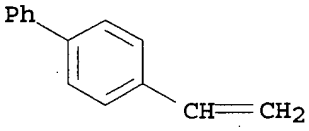


CM 2

CRN 326821-76-5
CMF (C14 H12 . C3 H4 O2)x
CCI PMS

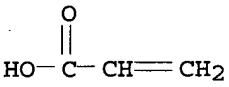
CM 3

CRN 2350-89-2
CMF C14 H12



CM 4

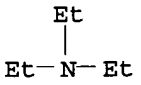
CRN 79-10-7
CMF C3 H4 O2



RN 407608-03-1 CAPLUS
CN 2-Propenoic acid, polymer with 9-ethenyl-9H-carbazole, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

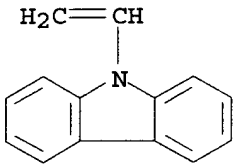


CM 2

CRN 50322-49-1
CMF (C14 H11 N . C3 H4 O2)x
CCI PMS

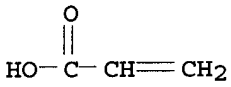
CM 3

CRN 1484-13-5
CMF C14 H11 N



CM 4

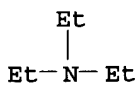
CRN 79-10-7
CMF C3 H4 O2



RN 407608-10-0 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propyl ester, polymer with 9-ethenylanthracene and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N



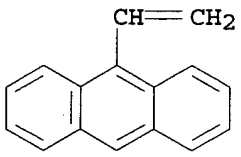
CM 2

CRN 326821-79-8

CMF (C16 H12 . C10 H14 O5 . C3 H4 O2)x
CCI PMS

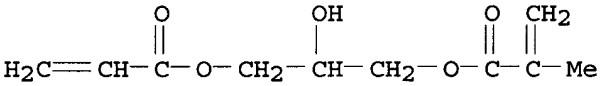
CM 3

CRN 2444-68-0
CMF C16 H12



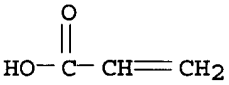
CM 4

CRN 1709-71-3
CMF C10 H14 O5



CM 5

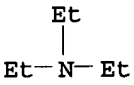
CRN 79-10-7
CMF C3 H4 O2



RN 407608-13-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[(1-oxo-2-propenyl)amino]ethyl ester, polymer with 9-ethenyl-9H-carbazole and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

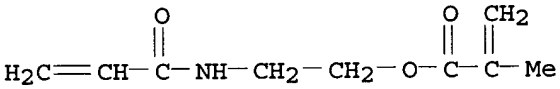


CM 2

CRN 326821-80-1
CMF (C14 H11 N . C9 H13 N O3 . C3 H4 O2)x
CCI PMS

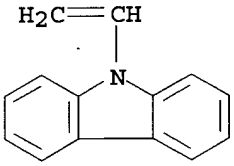
CM 3

CRN 56148-24-4
CMF C9 H13 N O3



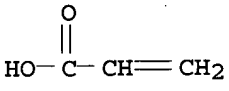
CM 4

CRN 1484-13-5
CMF C14 H11 N



CM 5

CRN 79-10-7
CMF C3 H4 O2

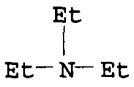


RN 407608-17-7 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxy-3-[(1-oxo-2-propenyl)oxy]propyl

ester, polymer with 9-ethenyl-9H-carbazole and 2-propenoic acid, compd. with N,N-diethylethanamine (9CI) (CA INDEX NAME)

CM 1

CRN 121-44-8
CMF C6 H15 N

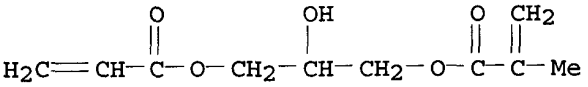


CM 2

CRN 326821-81-2
CMF (C14 H11 N . C10 H14 O5 . C3 H4 O2)x
CCI PMS

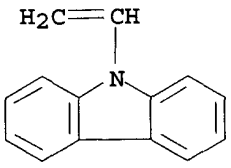
CM 3

CRN 1709-71-3
CMF C10 H14 O5



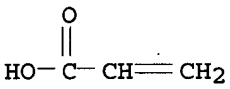
CM 4

CRN 1484-13-5
CMF C14 H11 N



CM 5

CRN 79-10-7
CMF C3 H4 O2



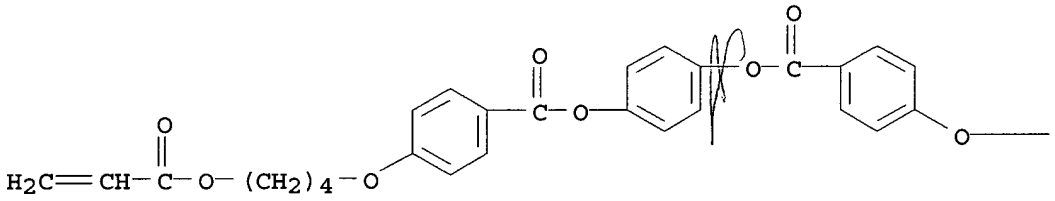
IT **132694-66-7 401660-99-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(rod-shaped **liq.-cryst.** mol.; optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

RN 132694-66-7 CAPLUS
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 1,4-phenylene ester, homopolymer (9CI) (CA INDEX NAME)

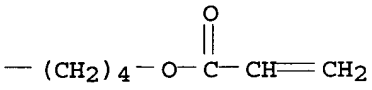
CM 1

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A



PAGE 1-B

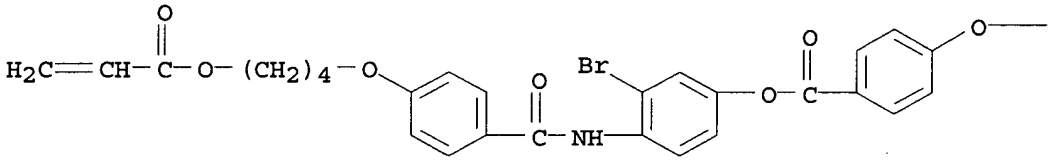


RN 401660-99-9 CAPLUS
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 3-bromo-4-[[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoyl]amino]phenyl ester, homopolymer (9CI) (CA INDEX NAME)

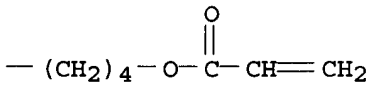
CM 1

CRN 360076-77-3
CMF C34 H34 Br N O9

PAGE 1-A



PAGE 1-B



IC ICM G02B005-30
ICS C08F220-04; G02F001-1337

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76

ST LCD device polarizing panel optical compensation sheet acrylic copolymer; rod shaped **liq cryst** compd orientation optical compensation sheet

IT **Liquid crystal** displays
Polarizing **films**
(optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

IT **407607-86-7P 407607-91-4P**
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(compensation sheet former; optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

IT **407607-94-7P** 407607-97-0P **407608-00-8P**
407608-03-1P 407608-07-5P **407608-10-0P**
407608-13-3P 407608-17-7P
RL: **IMF (Industrial manufacture)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

IT **132694-66-7 401660-99-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(rod-shaped **liq.-cryst.** mol.; optical compensation sheets, method for orientation of rod-shaped **liq.-cryst.** mols. and polarizing panels of LCD devices)

L25 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:236278 CAPLUS
DOCUMENT NUMBER: 136:286681
TITLE: Manufacture of of birefringent **films** for **liquid crystal** display with enlarged viewing angle
INVENTOR(S): Tsai, Wei Min; Uetsuki, Masao; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002090540	A2	20020327	JP 2000-282917	20000919

PRIORITY APPLN. INFO.: JP 2000-282917 20000919

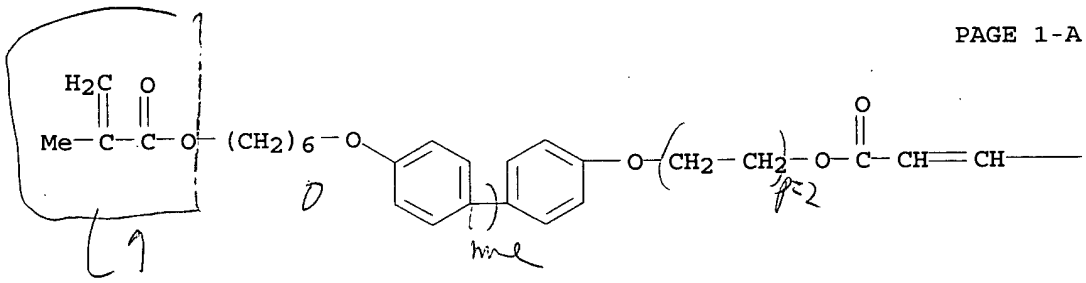
AB The process comprises laminating .gtoreq.2 layers **photosensitive** side-chain type polymer **films** and irradiating with linear polarized UV rays to tilt the light axis to any direction. CH2:CMeCO2(CH2)6OC6H4C6H4O(CH2)2CO2CH:CHC6H4OMe was prepd., polymd. in THF with AIBN, dissolved in CHCl3, spin coated on an isotropic base board, irradiated with polarized UV while tilting the base 30.degree. for 20 s, the process repeated until 20 layers was accumulated, and heated 10 min at 100.degree. to give a laminate showing phase difference 85 nm.

IT **227204-31-1P 230296-11-4P**
RL: **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(manuf. of of birefringent **films** for **liq. crystal** display with enlarged viewing angle)

RN 227204-31-1 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[[3-(4-methoxyphenyl)-1-oxo-2-propenyl]oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

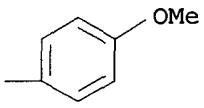
CRN 227204-27-5
CMF C34 H38 O7



PAGE 1-A

KOROMA EIC1700

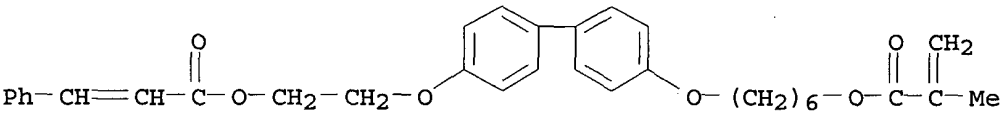
PAGE 1-B



RN 230296-11-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[(4'-cyano[1,1'-biphenyl]-4-yl)oxy]hexyl ester, polymer with 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

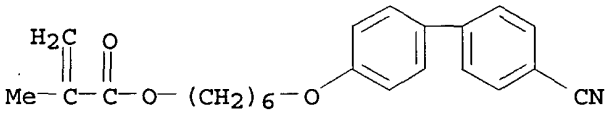
CM 1

CRN 199534-66-2
CMF C33 H36 O6



CM 2

CRN 117318-91-9
CMF C23 H25 N O3



IC ICM G02B005-30
ICS B32B007-02; C08F020-30; C08J007-00; B29D011-00; C08L033-14
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST birefringent **film liq crystal** display viewing angle; polarized UV irradn **photosensitive** acrylic polymer
IT Optical **films**
(birefringent; manuf. of of birefringent **films** for **liq. crystal** display with enlarged viewing angle)
IT Laminated plastic **films**
Liquid crystal displays

KOROMA EIC1700

(manuf. of of birefringent **films** for **liq.** **crystal** display with enlarged viewing angle)

IT UV radiation
(polarized, irradn. with; manuf. of of birefringent **films** for **liq.** **crystal** display with enlarged viewing angle)

IT **227204-31-1P 230296-11-4P**
RL: **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(manuf. of of birefringent **films** for **liq.** **crystal** display with enlarged viewing angle)

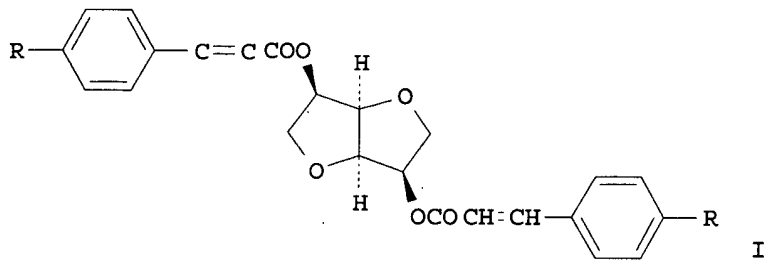
IT 117318-91-9P 199534-66-2P 227204-27-5P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(manuf. of of birefringent **films** for **liq.** **crystal** display with enlarged viewing angle)

L25 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:205085 CAPLUS
DOCUMENT NUMBER: 136:254634
TITLE: Optically reactive and optically active isomannide derivative, its use as optically reactive chiral agent, **liquid crystal** composition containing it, **liquid crystal** color filter, optical **film**, and optical recording medium containing the compound, and changing twisting of **liquid crystal** using the compound
INVENTOR(S): Sugiyama, Takekatsu; Ichihashi, Mitsuyoshi; Hayashi, Keiichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002080478	A2	20020319	JP 2001-5741	20010112
US 2002033479	A1	20020321	US 2001-887335	20010625

PRIORITY APPLN. INFO.: JP 2000-193143 A 20000627
JP 2000-193142 A 20000627
JP 2001-5740 A 20010112
JP 2001-5741 A 20010112

OTHER SOURCE(S): MARPAT 136:254634
GI



I

AB The compd. working as an optically reactive chiral agent comprises an isomannide deriv. I (R = H, C1-15 alkoxy, C3-15 acryloyloxyalkyloxy, C4-15 methacryloyloxyalkyloxy), which changes twisting of **liq. crystals** by irradn. of light. The **liq. crystal** compn., **liq. crystal** color filter, optical **film**, and optical recording medium contain I. The orientation of **liq. crystal** compn. is easily controlled with **photosensitive** compd. by irradn. of light to give color filters with high color purity and wide color variation.

IT **404595-76-2P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

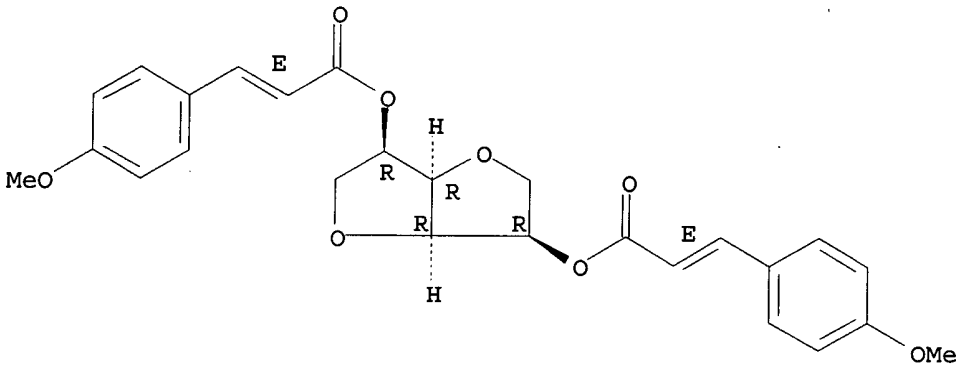
RN 404595-76-2 CAPLUS

CN D-Glucitol, 1,4:3,6-dianhydro-, bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], polymer with 1,4:3,6-dianhydro-D-mannitol bis[(2E)-3-(4-methoxyphenyl)-2-propenoate], 2,6-naphthalenediyl bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate] (9CI) (CA INDEX NAME)

CM 1

CRN 404929-56-2
CMF C26 H26 O8

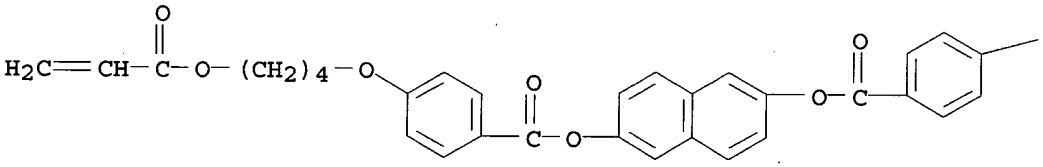
Absolute stereochemistry.
Double bond geometry as shown.



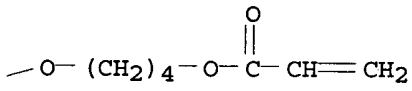
CM 2

CRN 339588-79-3
CMF C38 H36 O10

PAGE 1-A



PAGE 1-B

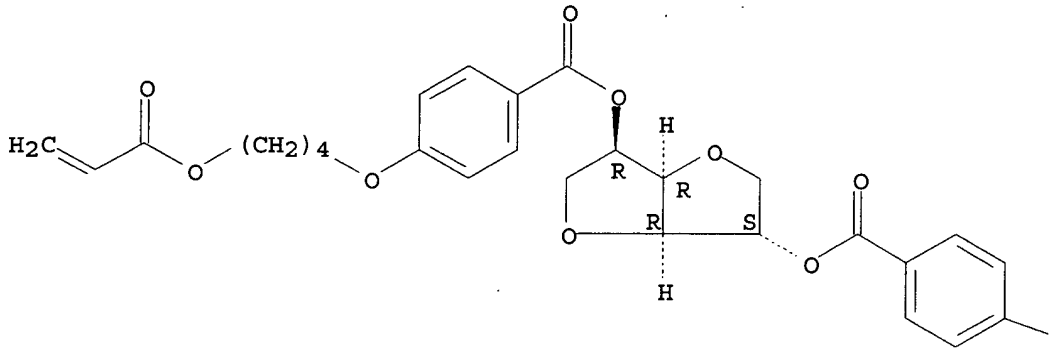


CM 3

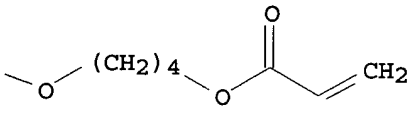
CRN 250230-59-2
CMF C34 H38 O12

Absolute stereochemistry.

PAGE 1-A



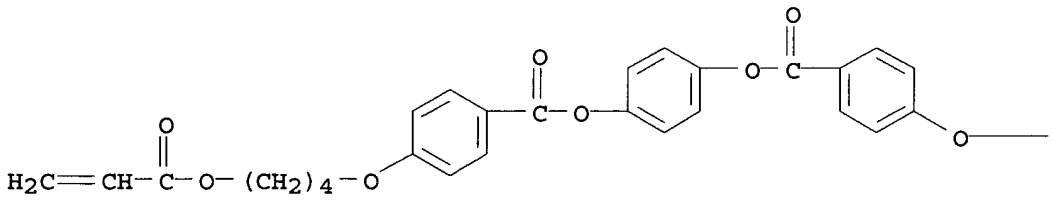
PAGE 1-B



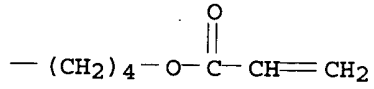
CM 4

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A

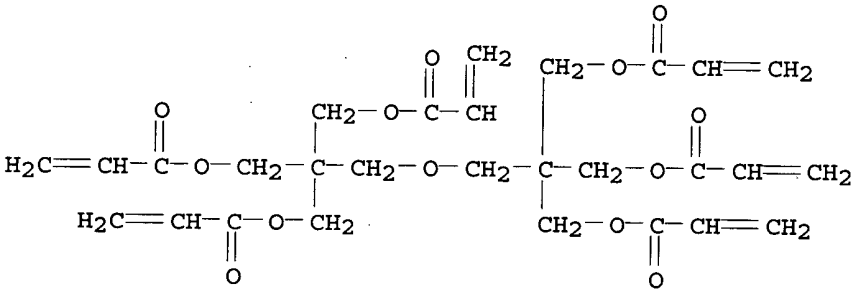


PAGE 1-B



CM 5

CRN 29570-58-9
CMF C28 H34 O13

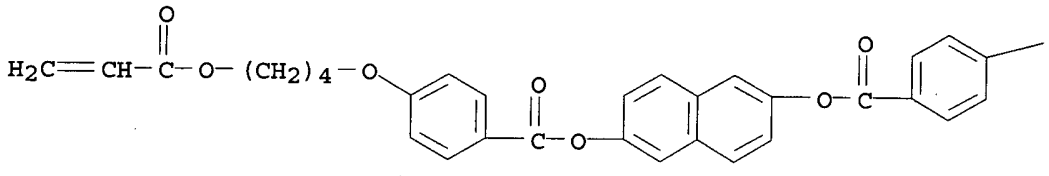


IT **339588-80-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)
RN 339588-80-6 CAPLUS
CN Benzoic acid, 4-[4-[(1-oxo-2-propenyl)oxy]butoxy]-, 2,6-naphthalenediyl ester, polymer with 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate] (9CI) (CA INDEX NAME)

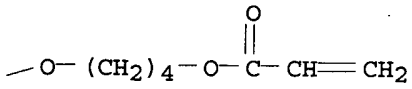
CM 1

CRN 339588-79-3
CMF C38 H36 O10

PAGE 1-A



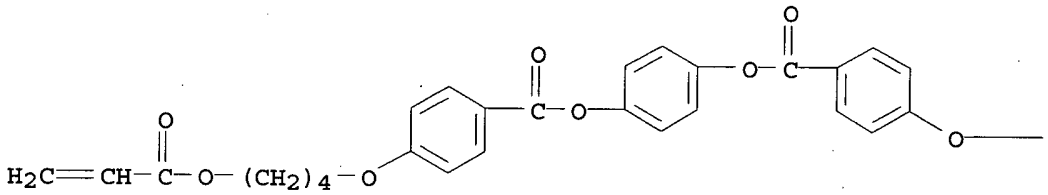
PAGE 1-B



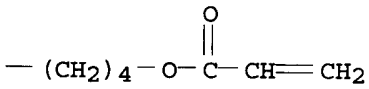
CM 2

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A



PAGE 1-B



IC ICM C07D493-04
ICS C09K019-34; C09K019-54; G02B005-20; G02B005-30; G02F001-13; G02F001-1335; G02F001-139; G03C001-73; C07M007-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 28, 73, 75

ST optical reactive chiral agent **liq crystal** twisting change; color filter recording medium optical reactive chiral agent;

isomannide phenylcinnamyl chiral agent **liq crystal**

IT Optical reflectors
(circularly polarized light; optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT Optical filters
(**liq.-crystal**; optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT Optical **films**
Optical recording materials
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT Optical instruments
(retarders; optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT **404595-76-2P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT 404595-71-7P 404929-59-5P
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT 404929-57-3 404929-58-4
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT 55379-98-1P, 4-Decyloxycinnamic acid
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT **339588-80-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT 79-37-8, Oxalyl chloride 501-98-4, trans-4-Coumaric acid 641-74-7,

Isomannide 830-09-1, 4-Methoxycinnamic acid 2050-77-3, 1-Iododecane
RL: RCT (Reactant); RACT (Reactant or reagent)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

IT 3712-60-5 31701-42-5 66230-67-9, ZLI 1132
RL: TEM (Technical or engineered material use); USES (Uses)
(optically reactive isomannide deriv. chiral agent for changing twisting of **liq. crystals** in color filters, optical **films**, and optical recording medium)

L25 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:932727 CAPLUS
DOCUMENT NUMBER: 136:61600
TITLE: Manufacture of **liquid crystal** orientation **film**, **liquid crystal** display, and manufacture thereof
INVENTOR(S): Otake, Tadashi; Ogawa, Kazufumi; Nomura, Yukio; Takebe, Naoko; Uemura, Tsuyoshi; Kawaguri, Mariko; Nakao, Kenji
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001356348	A2	20011226	JP 2000-179269	20000615

PRIORITY APPLN. INFO.: JP 2000-179269 20000615

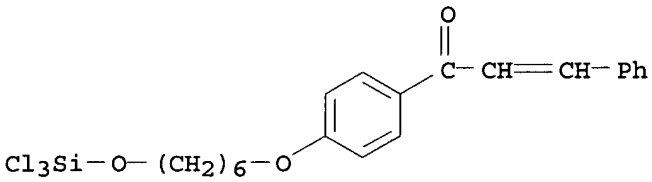
AB The process comprises exposure of light a **liq. crystal** orientation polymer **film** having a **photosensitive** group formed on a transparent substrate through the substrate or the side of substrate. The polymer **film** has polyvinyl, polysiloxane, and/or polyimide in the backbone chain. The process ia able to orient the **film** without exposing to air for a long time, thereby reducing contamination of the orientation **film**.

IT **382162-41-6P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** orientation polymer **film**)

RN 382162-41-6 CAPLUS
CN 2-Propen-1-one, 3-phenyl-1-[4-[[6-[(trichlorosilyl)oxy]hexyl]oxy]phenyl]-, homopolymer, hydrolytic (9CI) (CA INDEX NAME)

CM 1

CRN 242811-40-1
CMF C21 H23 Cl3 O3 Si



CM 2

CRN 7732-18-5
CMF H2 O

H_2O

IC ICM G02F001-1337
ICS G02F001-1337; G02F001-1335; G02F001-1341
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST **liq crystal** orientation **film** light exposure; display **liq crystal**
IT **Liquid crystal** displays
(**liq. crystal** orientation polymer **film**)
IT Polyimides, uses
Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(**liq. crystal** orientation polymer **film**)
IT Vinyl compounds, uses
RL: DEV (Device component use); USES (Uses)
(polymers; **liq. crystal** orientation polymer **film**)
IT **382162-41-6P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** orientation polymer **film**)

L25 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:299090 CAPLUS
DOCUMENT NUMBER: 134:334331
TITLE: **Liquid crystal**-alignment **film** and its preparation
INVENTOR(S): Sakai, Takeya; Kawatsuki, Yoshihiro
PATENT ASSIGNEE(S): Hayashi Telempu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001117102	A2	20010427	JP 1999-300455	19991022

PRIORITY APPLN. INFO.: JP 1999-300455 19991022

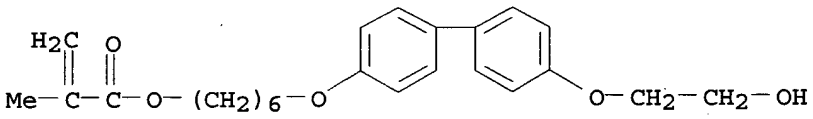
AB The alignment **film** is prepd. by (1) applying a polymer capable of photoinduced orientation on a substrate, and (2) irradiating an UV contg. both the complete and incomplete polarized light onto the polymer to obtain **liq. crystal**-alignment ability. The polymer may be anisotropically dimerized by the UV radiation. The polymer may have a side chain selected from (substituted) .beta.-(2-furyl)acryloyl, cinnamoyl, and cinnamylideneacetoyl groups. The polymer may have a main chain of a polyacrylate, polymethacrylate, polysiloxane, etc. Large alignment **film** can be manufd. by the method in high productivity. Thus, 4-Hydroxyethoxy-4'-(6'-biphenyloxyhexyl) methacrylate cinnamate homopolymer was applied on a substrate coated with an ITO, then nonpolar UV was irradiated onto the polymer via a declinedly arranged quartz plate to form an alignment **film**. A TN **liq. crystal** cell using the alignment **film** was manufd.

IT **229617-68-9P**
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(in prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

RN 229617-68-9 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-(2-hydroxyethoxy)[1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 183234-70-0
CMF C24 H30 O5



IT **199534-67-3P 326804-33-5P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer .beta.-(2-furyl) acrylate ester **336130-01-9P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer cinnamylideneacetate ester **336130-02-0P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer .alpha.-cyanocinnamylideneacetate ester
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and dimerization; in prepn. of **liq. crystal**

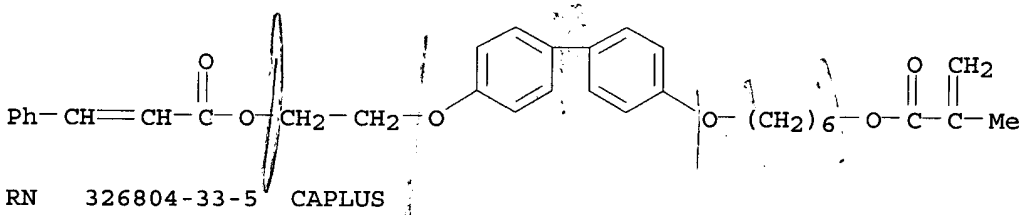
-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

RN 199534-67-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-[[4'-[2-[(1-oxo-3-phenyl-2-propenyl)oxy]ethoxy][1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 199534-66-2
CMF C33 H36 O6

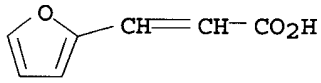


RN 326804-33-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-[[4'-(2-hydroxyethoxy)[1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer, 3-(2-furanyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 539-47-9
CMF C7 H6 O3

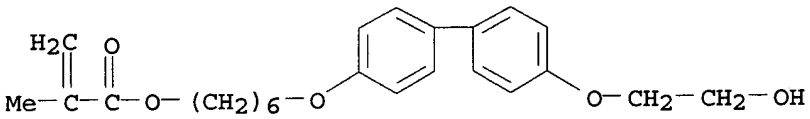


CM 2

CRN 229617-68-9
CMF (C24 H30 O5)x
CCI PMS

CM 3

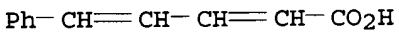
CRN 183234-70-0
CMF C24 H30 O5



RN 336130-01-9 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-(2-hydroxyethoxy)[1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer, 5-phenyl-2,4-pentadienoate (9CI) (CA INDEX NAME)

CM 1

CRN 1552-94-9
CMF C11 H10 O2

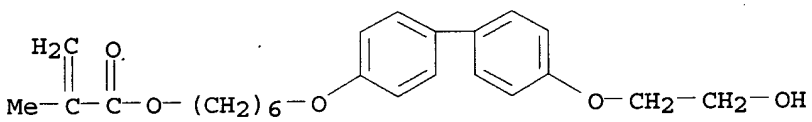


CM 2

CRN 229617-68-9
CMF (C24 H30 O5)x
CCI PMS

CM 3

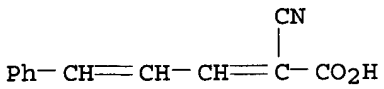
CRN 183234-70-0
CMF C24 H30 O5



RN 336130-02-0 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[[4'-(2-hydroxyethoxy)[1,1'-biphenyl]-4-yl]oxy]hexyl ester, homopolymer, 2-cyano-5-phenyl-2,4-pentadienoate (9CI) (CA INDEX NAME)

CM 1

CRN 24139-57-9
CMF C12 H9 N O2

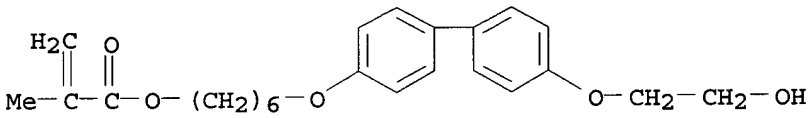


CM 2

CRN 229617-68-9
CMF (C24 H30 O5)x
CCI PMS

CM 3

CRN 183234-70-0
CMF C24 H30 O5



IC ICM G02F001-1337
ICS C08J003-28; C08L101-02

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38

ST **liq crystal** alignment **film**
photosensitive polymer; photoinduced dimerization polymer alignment **film liq crystal**; orientation photoinduced polymer alignment **film liq crystal**; polyacrylate photopolymer **liq crystal** alignment **film**; polysiloxane **photosensitive liq crystal** alignment **film**

IT UV radiation
(low polarization degree; prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

IT Polymers, preparation
Polysiloxanes, preparation
RL: DEV (Device component use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(photoinduced dimerized or oriented, alignment **film**; prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

IT Dimerization
(**photosensitive** polymer; prepn. of **liq. crystal**-alignment **film** by irradiating UV of low

polarization degree onto polymer capable of photoinduced dimerization or orientation)

IT 20689-54-7P, .beta.-(2-Furyl)acrylic acid chloride 40926-86-1P 183234-53-9P 183234-59-5P 199534-66-2P **229617-68-9P**
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(in prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

IT 92-88-6, 4,4'-Biphenyldiol 102-92-1, Cinnamoyl chloride 107-07-3, 2-Chloroethanol, reactions 629-03-8, 1,6-Dibromohexane 13234-23-6, Lithium methacrylate 25519-47-5 183234-70-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

IT **199534-67-3P 326804-33-5P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer .beta.-(2-furyl) acrylate ester **336130-01-9P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer cinnamylideneacetate ester **336130-02-0P**, 4-(2-Hydroxyethoxy)-4'-(6'-biphenyloxyhexyl) methacrylate homopolymer .alpha.-cyanocinnamylideneacetate ester
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and dimerization; in prepn. of **liq. crystal**-alignment **film** by irradiating UV of low polarization degree onto polymer capable of photoinduced dimerization or orientation)

L25 ANSWER 26 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:180898 CAPLUS
DOCUMENT NUMBER: 134:223749
TITLE: Manufacture of light polarization and diffraction devices using cholesteric **liquid crystal films**
INVENTOR(S): Nishimura, Ryo
PATENT ASSIGNEE(S): Nisseki Mitsubishi K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001066431	A2	20010316	JP 1999-238992	19990825

PRIORITY APPLN. INFO.: JP 1999-238992 19990825
OTHER SOURCE(S): MARPAT 134:223749
AB The title devices useful for optical instruments are manufd. by: (1) forming a cholesteric **liq. crystal film** (A) on a substrate **film** from a compn. contg. CH2:CR1CO2(CH2)aOXCO2ZO2CXO(CH2)bO2CCR2:CH2 (R1, R2 = H, Me; X =

p-phenylene; Z = p-phenylene optionally bearing 1 halogen, lower alkyl, methoxy, CN or nitro group on ortho position; a, b = 2-12), CH2:CR3CO2(CH2)cOXCO2XCN (R3 = H, Me; X = p-phenylene; c = 2-12) and an optically-active low mol. wt. compd., (2) crosslinking the **liq. crystal** mols. with a cholesteric orientation in A under UV light, and (3) giving A with diffraction gratings by transfer technique. One example of A was obtained by coating a mixt. of methylhydroquinone bis[4-(6-acryloyloxyhexyloxy)benzoate] (prepn. given) 7.0, 4-cyanophenol 4-(6-acryloyloxyhexyloxy)benzoate (prepn. given) 1.07, S 811 (a chiral dopant **liq. crystal**) 1.93, Irgacure 907 (a photoinitiator) 0.3, and di-Et thioxanthone (a **photosensitizer**) 0.1 in N-methylpyrrolidone 90 g on a polyethylene naphthalate **film**.

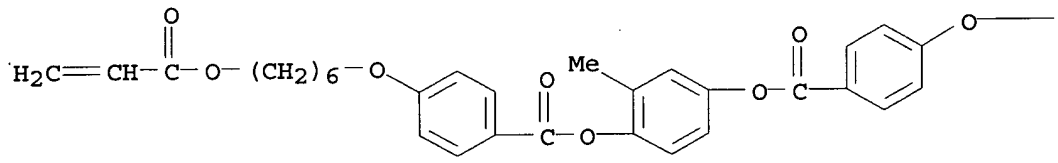
IT **304436-00-8 312633-23-1**
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

RN 304436-00-8 CAPLUS
CN Benzoic acid, 4-[[6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]-, 2-methyl-1,4-phenylene ester, polymer with 4-cyanophenyl 4-[[6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]benzoate (9CI) (CA INDEX NAME)

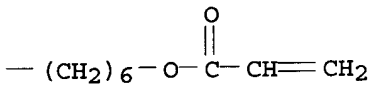
CM 1

CRN 125248-71-7
CMF C39 H44 O10

PAGE 1-A

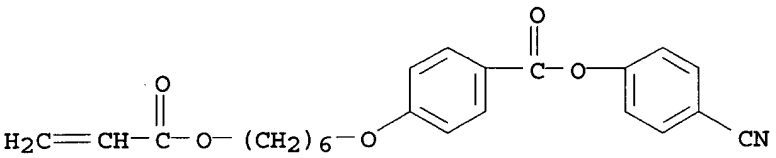


PAGE 1-B



CM 2

CRN 83847-14-7
CMF C23 H23 N O5

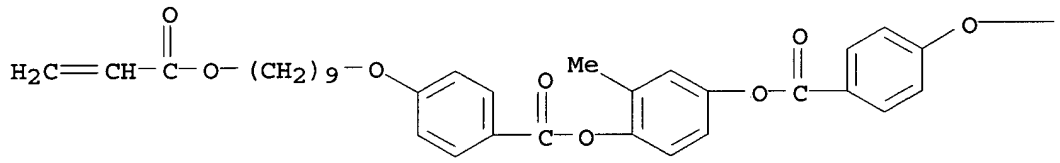


RN 312633-23-1 CAPLUS
CN Benzoic acid, 4-[[9-[(1-oxo-2-propenyl)oxy]nonyl]oxy]-, 2-methyl-1,4-phenylene ester, polymer with 4-cyanophenyl 4-[3-[(1-oxo-2-propenyl)oxy]propoxy]benzoate (9CI) (CA INDEX NAME)

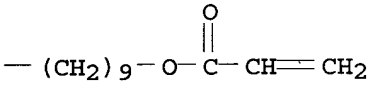
CM 1

CRN 312633-22-0
CMF C45 H56 O10

PAGE 1-A

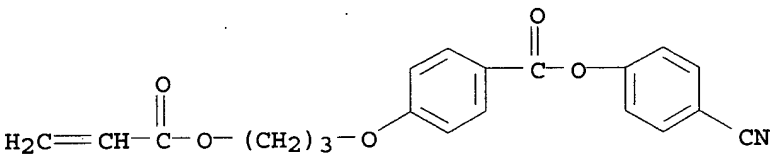


PAGE 1-B



CM 2

CRN 135595-69-6
CMF C20 H17 N O5



IC ICM G02B005-30
ICS C08F002-46; C08F220-10; C09K019-20; C09K019-54; G02B005-18

KOROMA EIC1700

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 75
ST arom ester cholesteric **liq crystal film** manuf; cyanophenyl benzoate cholesteric **liq crystal film** manuf; light polarization diffraction device **liq crystal film**; polyethylene naphthalate **film** light polarization diffraction device
IT **Liquid crystals**
(cholesteric, low mol. wt.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT **Liquid crystals**, polymeric
(cholesteric; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT Optical diffraction
(device; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT **Liquid crystals**
(**films**, cholesteric; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT **Films**
(**liq.-crystal**, cholesteric; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT Polarizers
(manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT 312694-11-4P
RL: DEV (Device component use); **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(low mol. wt. **liq. crystal** compd.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT 87321-20-8, S 811
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(low mol. wt. **liq. crystal** compd.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT **304436-00-8 312633-23-1**
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT 71868-10-5, Irgacure 907
RL: CAT (Catalyst use); USES (Uses)
(photoinitiator; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)
IT 100752-97-4, Diethyl thioxanthone
RL: CAT (Catalyst use); USES (Uses)

(**photosensitizer**; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

IT 95-71-6, Methylhydroquinone 83883-26-5, 4-(6-Acryloyloxyhexyloxy)benzoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for **liq. crystal** compd.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

IT 2493-84-7, Octyloxybenzoic acid 18531-99-2, (s)-(-)-1,1'-Bi-2-Naphthol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for low mol. wt. **liq. crystal** compd.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

IT 767-00-0, 4-Cyanophenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for non-**liq. crystal** compd.; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

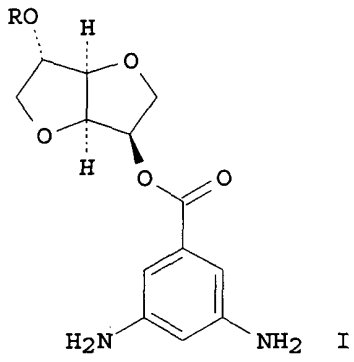
IT 9020-32-0, Poly(ethylene naphthalate) monomer based 9020-73-9, Polyethylene naphthalate
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(substrate **film**; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

IT 9016-75-5, Poly(phenylene sulfide)
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate **film**; manuf. of polarized light diffraction components from cholesteric **liq. crystal films**)

L25 ANSWER 27 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:54328 CAPLUS
DOCUMENT NUMBER: 134:123656
TITLE: **Liquid crystal** alignment agent, chiral nematic **liquid crystal** color filter, and formation of the filter
INVENTOR(S): Nigorikawa, Kazunori; Ichihashi, Mitsuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001019766	A2	20010123	JP 1999-190419	19990705

PRIORITY APPLN. INFO.: JP 1999-190419 19990705
GI



I

AB The **liq. crystal** alignment agent is made of polyimide prepd. from 3,5-diaminobenzoate ester I (R = alkyl, alkanoyl, benzoyl) and tetracarboxylic dianhydride. The color filter has a **film** made of the **liq. crystal** alignment agent on a transparent substrate and a **photosensitive** resin layer contg. a chiral nematic **liq. crystal** on the alignment layer. The color filter is manufd. by transfering the **photosensitive** layer on the **liq. crystal**-alignment **film**. The chiral nematic **liq. crystal** is uniformly aligned in the horizontal direction in the color filter.

IT **320750-52-5**
RL: DEV (Device component use); USES (Uses)
(manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

RN 320750-52-5 CAPLUS

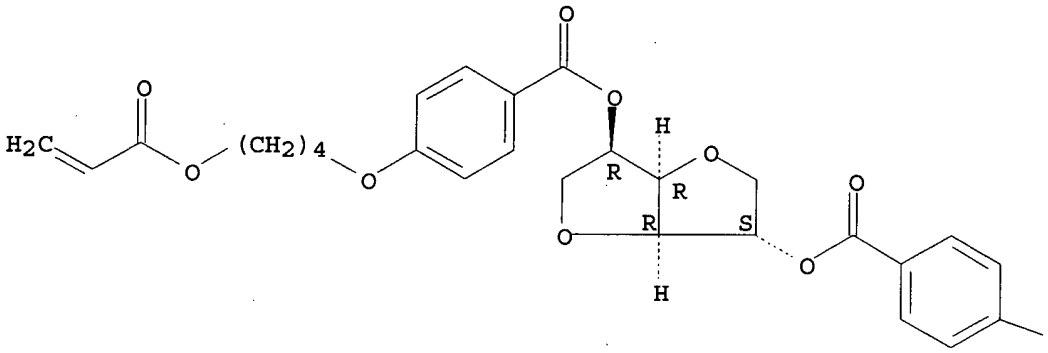
CN D-Glucitol, 1,4:3,6-dianhydro-, bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate], polymer with 1,4-phenylene bis[4-[4-[(1-oxo-2-propenyl)oxy]butoxy]benzoate] (9CI) (CA INDEX NAME)

CM 1

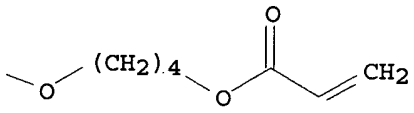
CRN 250230-59-2
CMF C34 H38 O12

Absolute stereochemistry.

PAGE 1-A



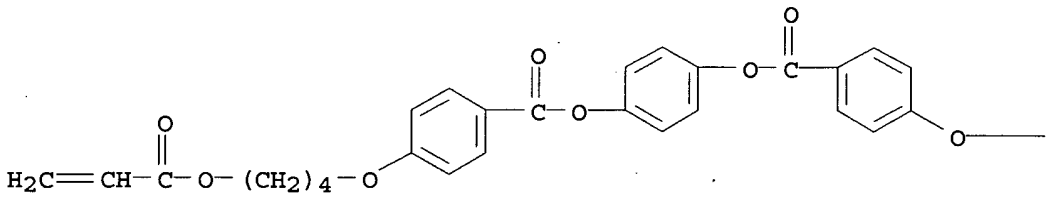
PAGE 1-B



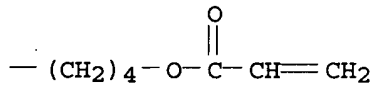
CM 2

CRN 132694-65-6
CMF C34 H34 O10

PAGE 1-A



PAGE 1-B



IC ICM C08G073-10
ICS G02F001-1337

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 75

ST **liq crystal** alignment agent color filter; chiral nematic **liq crystal** color filter; uniform horizontal alignment **liq crystal** filter

IT Polyimides, uses
RL: DEV (Device component use); USES (Uses)
(arom.; manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

IT **Liquid crystals**
(cholesteric; manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

IT Optical filters
Transfers
(manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

IT **320750-52-5**
RL: DEV (Device component use); USES (Uses)
(manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

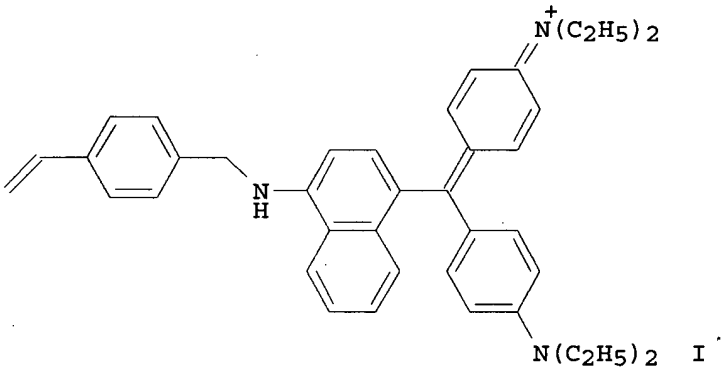
IT 320750-50-3P
RL: DEV (Device component use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(manuf. of color filter by transfering **photosensitive** resin contg. chiral nematic **liq. crystal** on polyimide alignment layer)

L25 ANSWER 28 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:36935 CAPLUS
DOCUMENT NUMBER: 134:117128
TITLE: **Photosensitive** coloring compositions containing colored copolymer and color filters therefrom useful for **liquid crystal** display or color video camera
INVENTOR(S): Hosono, Tadashi
PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001011336	A2	20010116	JP 1999-188967	19990702

PRIORITY APPLN. INFO.: JP 1999-188967 19990702
GI



I

AB The compns. with good transparency and resistance to heat and light comprise mainly a **photosensitive** copolymer (A) polymd. from a polymerizable pigment monomer, N-phenylmaleimide (P) and other monomers, wherein P is 3-40% of the copolymer wt., and optionally polyimide precursor (B), acrylic resin, other necessary additives and solvents. Thus, polymg. a ClO4 salt of I (an A monomer) 30, 2-acrylamido-2-methylpropanesulfonic acid 13, 2-hydroxyethyl methacrylate 30, methacrylic acid 11, N-phenylmaleimide 16 and 28% ammonia water 4 in the presence of AIBN 5 g in Me cellosolve gave an A with Mn 13,300 and Mw 18,200, 13.0 g of which was mixed with 22.0 g B polymd. from 4,4'-diaminodiphenyl ether 9.1, bis(3-aminopropyl)tetramethyldisiloxane 0.5 and 3,3',4,4'-biphenyltetracarboxylic dianhydride 12.9 in cyclohexanone 77.5 g at 50.degree. for 3 h to give a title compn. This compn. was spin coated and dried to give a **film** of 1.2 .mu.m thickness, heated at 120.degree. for 20 min then was spin coated with a pos. photoresist Microposit S1400, heated at 100.degree. for 10 min, covered with a mask and developed as usual to give a color filter with good claimed properties.

IT **320600-72-4P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(colored copolymer; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq**.

crystal display or color video camera)

RN 320600-72-4 CAPLUS

CN Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-[[(4-ethenylphenyl)methyl]amino]-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, perchlorate, polymer with 2-hydroxyethyl 2-methyl-2-propenoate, 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid, 2-methyl-2-propenoic acid and 1-phenyl-1H-pyrrole-2,5-dione, ammonium salt (9CI) (CA INDEX NAME)

CM 1

CRN 320600-71-3

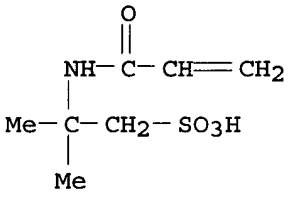
CMF (C40 H44 N3 . C10 H7 N O2 . C7 H13 N O4 S . C6 H10 O3 . C4 H6 O2 . Cl O4)x

CCI PMS

CM 2

CRN 15214-89-8

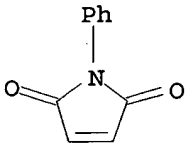
CMF C7 H13 N O4 S



CM 3

CRN 941-69-5

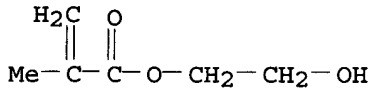
CMF C10 H7 N O2



CM 4

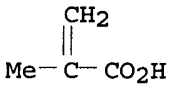
CRN 868-77-9

CMF C6 H10 O3



CM 5

CRN 79-41-4
CMF C4 H6 O2



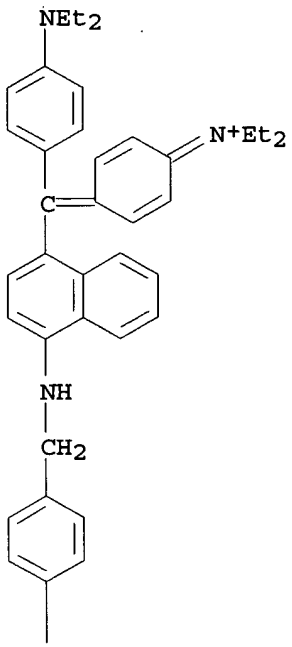
CM 6

CRN 320600-70-2
CMF C40 H44 N3 . Cl O4

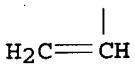
CM 7

CRN 320600-69-9
CMF C40 H44 N3

PAGE 1-A

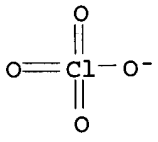


PAGE 2-A



CM 8

CRN 14797-73-0
CMF Cl O4



IC ICM C09B069-10
ICS C08F212-14; C08F220-34; C08F222-40; C09B067-20; G02B005-20

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 38, 74

KOROMA EIC1700

ST polymerizable pigment monomer **photosensitive** copolymer coloring compn; color filter **liq crystal** display color video camera; phenylmaleimide **photosensitive** copolymer coloring compn; polyimide precursor coloring compn color filter; photoresist pos working color filter

IT Polyimides, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(di-Me polysiloxane-, resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Polyamic acids
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(di-Me siloxane-, polyimide precursor, resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Polysiloxanes, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(di-Me, polyamic acid-, polyimide precursor, resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Polysiloxanes, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(di-Me, polyimide-, resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Pigments, nonbiological
(naphthanilide, polymerizable monomer; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Phenolic resins, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(novolak, resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Light-sensitive materials
Optical filters
(**photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Crosslinking catalysts
(**photosensitizers**; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT Coloring materials

(polymeric; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT **320600-72-4P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(colored copolymer; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT 1143-72-2, 2,3,4-Trihydroxybenzophenone 42573-57-9, 2-(p-Methoxystyryl)-4,6-bis(trichloromethyl)-s-triazine 53130-54-4D, 1,2-Naphthoquinone-5-sulfonic acid, esters
RL: MOA (Modifier or additive use); USES (Uses)
(**photosensitizer**; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT 84329-59-9P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-bis(3-aminopropyl)tetramethyldisiloxane-4,4'-diaminodiphenyl ether copolymer
RL: DEV (Device component use); **IMF (Industrial manufacture)**; POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyamic acid, polyimide precursor, polyimide; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT 111745-42-7, Microposit S1400
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(pos. photoresist; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

IT 320600-73-5
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(resin vehicle; **photosensitive** coloring compns. contg. colored copolymer and color filters therefrom useful for **liq. crystal** display or color video camera)

L25 ANSWER 29 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:727312 CAPLUS
DOCUMENT NUMBER: 133:315705
TITLE: **Liquid crystal** display element and manufacture thereof
INVENTOR(S): Nomura, Yukio; Ogawa, Kazufumi; Otake, Tadashi; Takebe, Shoko
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Jpn. Tokkyo Koho, 13 pp.
CODEN: JTXXFF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 3099825	B1	20001016	JP 1999-289581	19991012
JP 2001108995	A2	20010420		
WO 2001026442	A2	20010419	WO 2000-IB1458	20001012
WO 2001026442	A3	20020228		
WO 2001026442	B1	20020620		
W: CN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1223604	A1	20020717	EP 2000-966348	20001012
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				

PRIORITY APPLN. INFO.: JP 1999-289581 A 19991012
JP 2000-171886 A 20000608
WO 2000-IB1458 W 20001012

AB The **liq. crystal** display element comprises a pair of orientation **films** formed on substrate sandwiching a **liq. crystal** layer, wherein both orientation **films** have a **photosensitive** group and have an orientation anisotropy upon receiving light and an anchoring energy of one of the orientation **films** is smaller than that on the other.

IT **302342-94-5P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(orientation **film** of **liq. crystal** display)

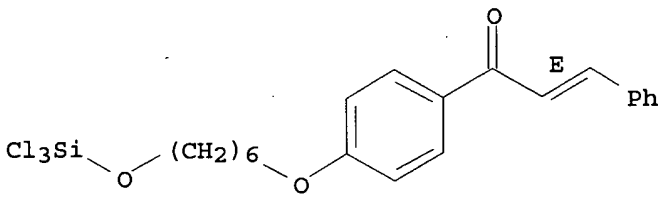
RN 302342-94-5 CAPLUS

CN 2-Propen-1-one, 3-phenyl-1-[4-[[6-[(trichlorosilyl)oxy]hexyl]oxy]phenyl]-, (2E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 220202-83-5
CMF C21 H23 Cl3 O3 Si

Double bond geometry as shown.



IC ICM G02F001-1337
ICS C08G077-24; G09F009-35

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

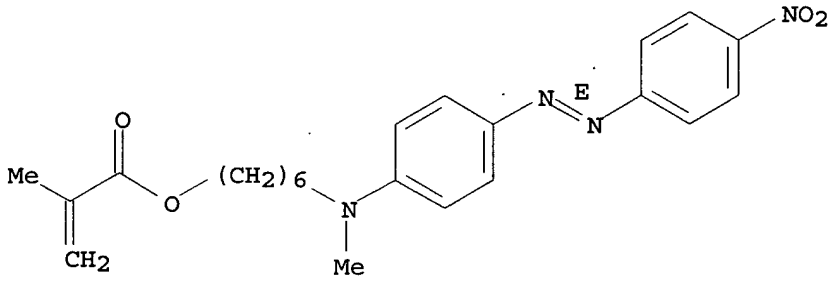
ST **liq crystal** display orientation **film**
IT **Liquid crystal** displays
(orientation **film** of)
IT Polyimides, uses
RL: DEV (Device component use); USES (Uses)
(orientation **film** of **liq. crystal** display)
IT **302342-94-5P**
RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)
(orientation **film** of **liq. crystal** display)

L25 ANSWER 30 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:704927 CAPLUS
DOCUMENT NUMBER: 134:223236
TITLE: **Liquid crystal** alignment on the **films** of polymethacrylate and polyurethane bearing an aminonitroazobenzene chromophore
AUTHOR(S): Choi, Dong Hoon; Kim, Jae Hyung; Cho, Kang Jin
CORPORATE SOURCE: College of Environment and Applied Chemistry, Kyung Hee University, Kyungki, 449-701, S. Korea
SOURCE: Korea Polymer Journal (2000), 8(4), 172-178
CODEN: KPJOE2; ISSN: 1225-5947
PUBLISHER: Polymer Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We synthesized polymethacrylate and polyurethane bearing a **photosensitive** azobenzene chromophore. Photo-induced birefringence of the thin **film** was obsd. under a linearly polarized light (.lambda. = 532 nm). Dynamic behaviors of birefringence in two polymers were investigated in terms of the rate consts. of growth and decay. An induced dichroism was obsd. from polarized UV-VIS absorption spectroscopy. Layers of two **photosensitive** polymers were used for aligning **liq. crystal** (LC) mols. instead of one of the rubbed polyimide layers in the conventional twisted nematic cell. For producing homogeneous alignment of a nematic LC mol., a linearly polarized light was exposed to the **films** of two polymers. The stability of the LC alignment upon the linearly polarized light exposure was also studied.
IT **126390-53-2P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(prepn. and **liq. crystal** alignment on **films** of polymethacrylate and polyurethane bearing aminonitroazobenzene chromophore)
RN 126390-53-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[methyl[4-[(1E)-(4-nitrophenyl)azo]phenyl]amino]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 126390-52-1
CMF C23 H28 N4 O4

Double bond geometry as shown.



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 37, 75
ST **liq crystal** alignment aminonitroazobenzene chromophore polymethacrylate polyurethane
IT Birefringence
(photoinduced; prepn. and **liq. crystal** alignment on **films** of polymethacrylate and polyurethane bearing aminonitroazobenzene chromophore)
IT Light-sensitive materials
Liquid crystals, polymeric
Polymerization
(prepn. and **liq. crystal** alignment on **films** of polymethacrylate and polyurethane bearing aminonitroazobenzene chromophore)
IT Polyurethanes, properties
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(prepn. and **liq. crystal** alignment on **films** of polymethacrylate and polyurethane bearing aminonitroazobenzene chromophore)
IT **126390-53-2P** 329189-59-5P 329189-61-9P
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(prepn. and **liq. crystal** alignment on **films** of polymethacrylate and polyurethane bearing aminonitroazobenzene chromophore)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 31 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:562871 CAPLUS
DOCUMENT NUMBER: 133:157952
TITLE: Generation of optical anisotropy in polymer **films**, method for orientation of lyotropic **liquid crystals**, oriented dye

films, and their manufacture
INVENTOR(S): Ichimura, Kunihiro
PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000226448	A2	20000815	JP 1999-28992	19990205

PRIORITY APPLN. INFO.: JP 1999-28992 19990205

AB Polymer **films** having **photosensitive** groups in their main or side chains are irradiated with linearly polarized light for selective optical reorientation of the polymers (orientation of mol. axis in a direction perpendicular to the polarization axis of the irradiated light). The amt. of the photon irradn., in the above process, is controlled to make the dichroic ratio (the ratio of absorbance of monitor linearly polarized light parallel to the polarization axis to that perpendicular to the axis) to increase to almost its satn. value. Lyotropic **liq. crystals** are oriented by their contacting with the above stated polymer **films** showing optical anisotropy. Oriented dye **films**, comprising of the above stated polymer **films** and lyotropic **liq. crystals**, and their manuf. are also claimed. Optical anisotropy is generated in polymer **films** without optical reorientation.

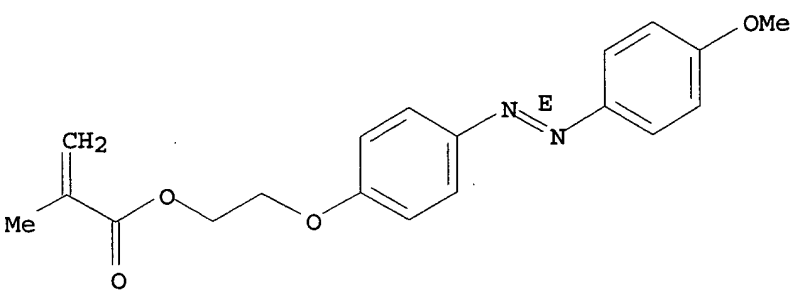
IT **114556-78-4P 114556-86-4P 168647-61-8P 185386-04-3P 185838-71-5P 219482-95-8P 287386-80-5P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

RN 114556-78-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[4-[(1E)-(4-methoxyphenyl)azo]phenoxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 114556-77-3
CMF C19 H20 N2 O4

Double bond geometry as shown.

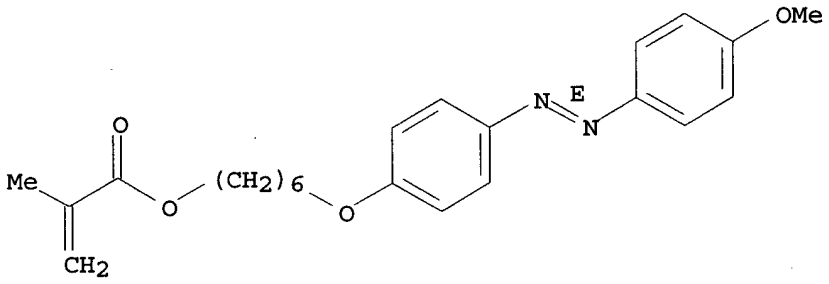


RN 114556-86-4 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[4-[(1E)-(4-methoxyphenyl)azo]phenoxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 114556-85-3
CMF C23 H28 N2 O4

Double bond geometry as shown.

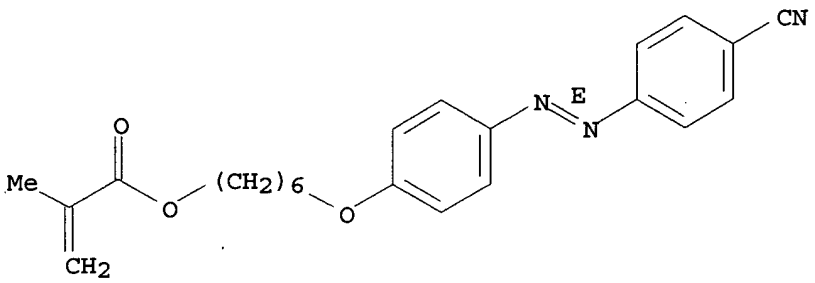


RN 168647-61-8 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[4-[(4-cyanophenyl)azo]phenoxy]hexyl ester, (2E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123924-76-5
CMF C23 H25 N3 O3

Double bond geometry as shown.

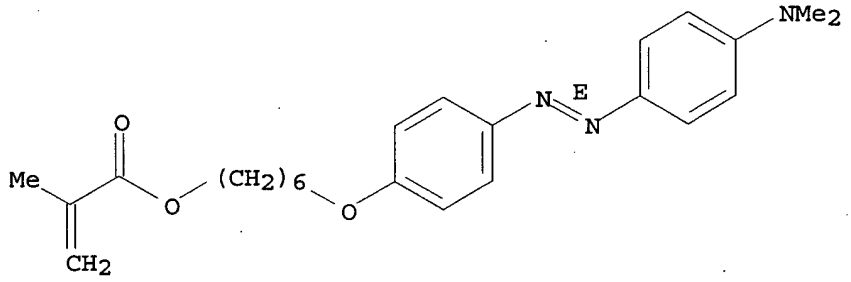


RN 185386-04-3 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenoxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 185385-88-0
CMF C24 H31 N3 O3

Double bond geometry as shown.

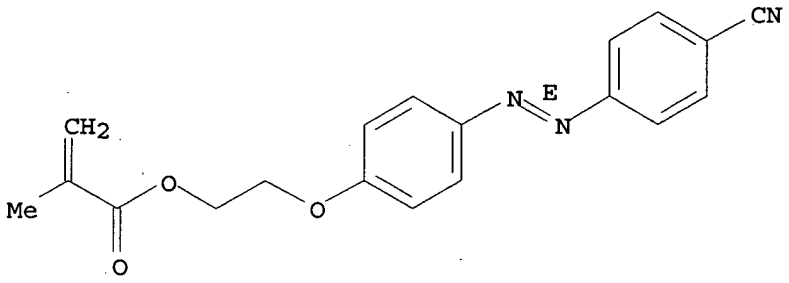


RN 185838-71-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[4-[(1E)-(4-cyanophenyl)azo]phenoxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 185838-47-5
CMF C19 H17 N3 O3

Double bond geometry as shown.

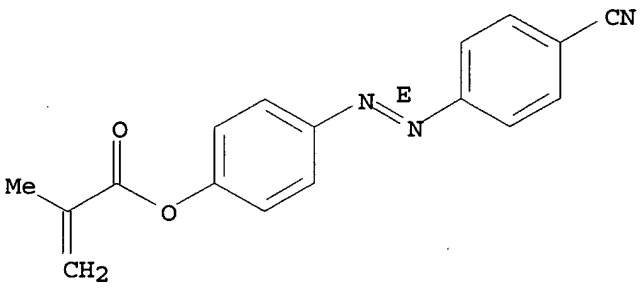


RN 219482-95-8 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 4-[(1E)-(4-cyanophenyl)azo]phenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 219482-94-7
CMF C17 H13 N3 O2

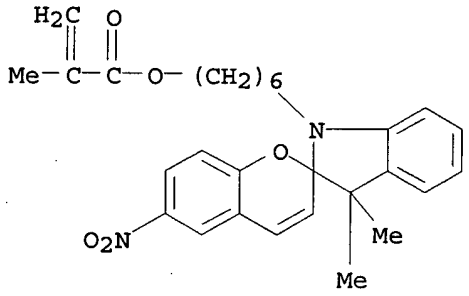
Double bond geometry as shown.



RN 287386-80-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 6-(3',3'-dimethyl-6-nitrospiro[2H-1-benzopyran-2,2'-[2H]indol]-1'(3'H)-yl)hexyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

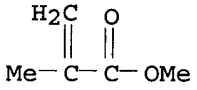
CM 1

CRN 89908-29-2
CMF C28 H32 N2 O5



CM 2

CRN 80-62-6
CMF C5 H8 O2



IC ICM C08G065-02
ICS C08F020-36; C08G073-00; C08J005-18
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 38
ST optical anisotropy **photosensitive** polymer **film**;
lyotropic **liq crystal** oriented dye **film**;
linearly polarized light irradn polymer an
IT Optical anisotropy
Polarized light
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT **Liquid crystals**
(lyotropic; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT Dyes
(oriented **films**; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT **114556-78-4P 114556-86-4P 168647-61-8P**
185386-04-3P 185838-71-5P 219482-95-8P
287386-80-5P
RL: PEP (Physical, engineering or chemical process); PNU (Preparation,

unclassified); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

IT 15826-37-6, Disodium cromoglycate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

L25 ANSWER 32 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:562853 CAPLUS
DOCUMENT NUMBER: 133:185828
TITLE: Generation of optical anisotropy in polymer **films**, method for orientation of lyotropic **liquid crystals**, oriented dye **films**, and their manufacture
INVENTOR(S): Ichimura, Kunihiro
PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000226415	A2	20000815	JP 1999-28993	19990205

PRIORITY APPLN. INFO.: JP 1999-28993 19990205

AB Polymer **films** having **photosensitive** groups in their main or side chains are irradiated with linearly polarized light for selective conversion of the chem. structure of the polymers that have transition moment parallel to the polarization axis of the irradiated light. The amt. of the photon irradn., in the above process, is controlled to make the dichroic ratio (the ratio of absorbance of monitor linearly polarized light parallel to the polarization axis to that perpendicular to the axis) to be max. Lyotropic **liq. crystals** are oriented by their contacting with the above stated polymer **films** showing optical anisotropy. Oriented dye **films**, comprising of the above stated polymer **films** and lyotropic **liq. crystals**, and their manuf. are also claimed. Optical anisotropy is generated in polymer **films** without optical reorientation.

IT **151903-00-3P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)

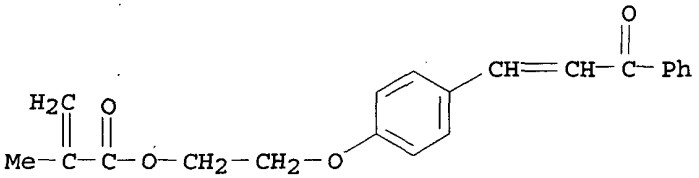
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

RN 151903-00-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[4-(3-oxo-3-phenyl-1-propenyl)phenoxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 34331-65-2
CMF C21 H20 O4



IC ICM C08F112-14
ICS C08F112-34; C08G073-00; C08G073-10; C08J005-18

CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 38

ST optical anisotropy **photosensitive** polymer **film**; lyotropic **liq crystal** oriented dye **film**; linearly polarized light irradn polymer an

IT Light-sensitive materials
Light-sensitive materials
(**films**, polymers; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

IT Optical anisotropy
Polarized light
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

IT **Films**
Films
(light-sensitive, polymers; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

IT **Liquid crystals**
(lyotropic; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

IT Dyes
(oriented **films**; irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT 15826-37-6P, Disodium cromoglycate **151903-00-3P** 170788-72-4P 177856-50-7P 181373-51-3P 288255-48-1P 288255-50-5P 288255-52-7P 288255-53-8P
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT 64498-59-5P, 7-Methacryloyloxycoumarin 149295-82-9P
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)
IT 93-35-6, 7-Hydroxycoumarin 920-46-7 31170-52-2, 7-(2-Hydroxyethoxy)coumarin
RL: RCT (Reactant); RACT (Reactant or reagent)
(irradn. of **photosensitive** polymers with linearly polarized light for their optical anisotropy, orientation of lyotropic **liq. crystals**, and prepn. of oriented dye **films**)

L25 ANSWER 33 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:258768 CAPLUS
DOCUMENT NUMBER: 132:301035
TITLE: **Liquid crystal** display device having **photosensitive** resin laminate-based orientation-controlling **film**
INVENTOR(S): Togano, Takeshi; Terada, Tadahiro; Asao, Yasushi; Mori, Yoshimasa; Moriyama, Takashi
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000111919	A2	20000421	JP 1998-297596	19981006

PRIORITY APPLN. INFO.: JP 1998-297596 19981006
AB The device has a **liq. crystal** sandwiched between a pair of substrates selectively having a uniaxially orientation-controlling

film contg. two different kinds of **photosensitive** resin laminates. The device is useful for a chiral-smectic **liq. crystal**-contg. display device. The device shows improved **liq. crystal** orientation and driving characteristics.

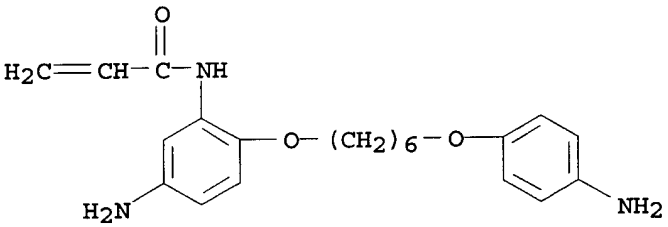
IT **264197-61-7P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)

RN 264197-61-7 CAPLUS

CN 2-Propenamide, N-[5-amino-2-[[6-(4-aminophenoxy)hexyl]oxy]phenyl]-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

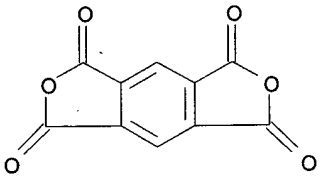
CM 1

CRN 264197-60-6
CMF C21 H27 N3 O3



CM 2

CRN 89-32-7
CMF C10 H2 O6



IC ICM G02F001-1337

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **liq crystal** display orientation controlling **film**; **photosensitive** resin laminate LCD; polyamic acid laminate LCD orientation controlling **film**; uniaxial orientation controlling **film** LCD; chiral smectic **liq**

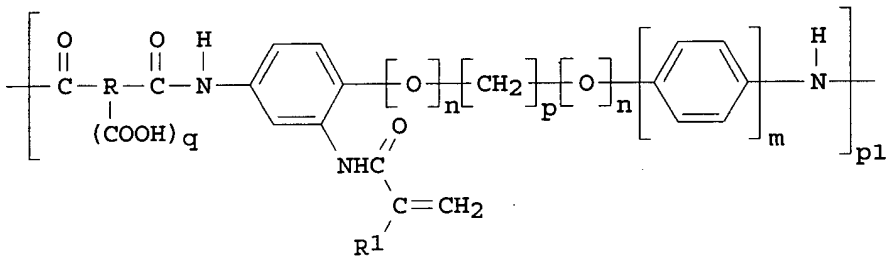
crystal display cell
IT **Liquid crystal** displays
(chiral smectic; **liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)
IT Polyamic acids
RL: DEV (Device component use); USES (Uses)
(**liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)
IT Polyimides, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(**liq. crystal** device having **photosensitive** resin laminates)
IT 25668-09-1P **264197-61-7P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(**liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)
IT 25119-82-8, Poly(diethylaminoethylmethacrylate)
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(**liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)
IT 264197-59-3
RL: DEV (Device component use); USES (Uses)
(**liq. crystal** mixt.; **liq. crystal** device having **photosensitive** resin laminate-based orientation-controlling **film**)

L25 ANSWER 34 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:254637 CAPLUS
DOCUMENT NUMBER: 132:301030
TITLE: **Photosensitive** resin material, **liquid crystal** orientation **film** material, and **liquid crystal** device
INVENTOR(S): Togano, Takeshi; Terada, Tadahiro; Asao, Yasushi; Katanosaka, Akisato; Matoba, Tsuneko; Masahara, Kazuyuki
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

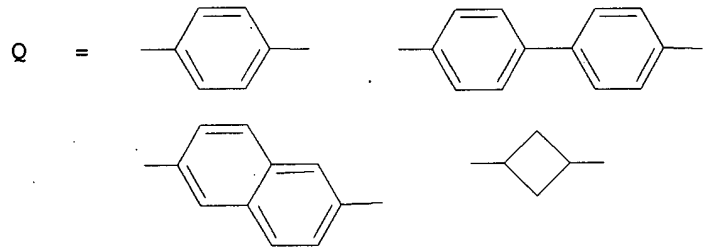
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000111921	A2	20000421	JP 1998-296258	19981005

PRIORITY APPLN. INFO.: JP 1998-296258 19981005

GI



I



II

AB The material contains (A) a polymer having a repeating unit I (R = Q; q = 1, 2; m, n = 0, 1; p = 2-10 integer; R1 = H, C1-4 alkyl) and (B) a photopolymn. initiator and a **photosensitizer**. The latter material comprises the resin material. The device contains the **film**. The **film** shows homogeneous **film** thickness and excellent flatness.

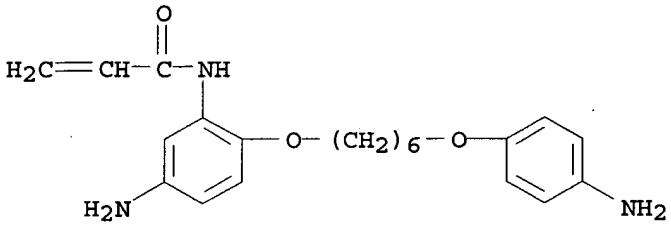
IT **264197-61-7P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)

RN 264197-61-7 CAPLUS

CN 2-Propenamide, N-[5-amino-2-[[6-(4-aminophenoxy)hexyl]oxy]phenyl]-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

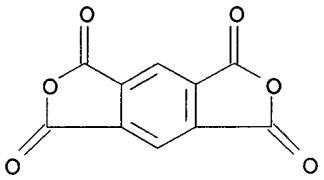
CM 1

CRN 264197-60-6
CMF C21 H27 N3 O3



CM 2

CRN 89-32-7
CMF C10 H2 O6



IC ICM G02F001-1337
ICS C08G073-12; C09D005-00; G02F001-1339; G03F007-032
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST **liq crystal** display device orientation **film**; **photosensitive** resin photoinitiator **photosensitizer** LCD; polyimide orientation **film** LCD
IT **Liquid crystal** displays
Polymerization catalysts
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)
IT Polyimides, uses
RL: DEV (Device component use); USES (Uses)
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)
IT 24650-42-8, Irgacure 651
RL: CAT (Catalyst use); USES (Uses)
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)
IT 57202-52-5 57202-56-9 57202-62-7 92519-52-3 113722-79-5 117392-57-1 128928-90-5 139674-42-3 139674-45-6 139674-48-9 139716-32-8 139907-15-6 150635-62-4 150635-69-1 154407-84-8 264121-75-7, Daitocure PAA
RL: DEV (Device component use); USES (Uses)
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)

IT **264197-61-7P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; **PREP (Preparation)**; USES (Uses)
(**photosensitive** resin material for polyimide-based orientation **film** in **liq. crystal** device)

L25 ANSWER 35 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:43357 CAPLUS
DOCUMENT NUMBER: 132:94423
TITLE: Photopolymerizable compositions and formation of photofunctional films thereof
INVENTOR(S): Kuratate, Tomoaki
PATENT ASSIGNEE(S): Sharp Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000017003	A2	20000118	JP 1998-183000	19980629

PRIORITY APPLN. INFO.: JP 1998-183000 19980629

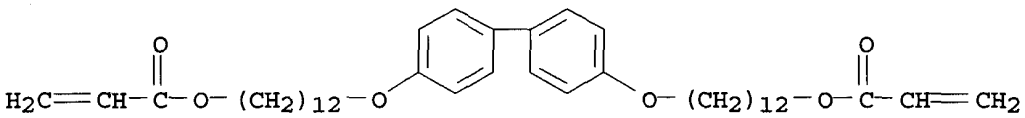
AB The photopolymerizable compns. contain polymn. initiators and .gtoreq.1 polymn. retarders 1-50% for the total amt. of the polymerizable compds. and are capable of forming .ltoreq.100-.mu.m, esp. .ltoreq.10-.mu.m patterns in area distributions of phys. quantity selected from polymer d., refractive index, roughness shape , and orientation. Polymerizable compds. which are not anisotropic and .gtoreq.1 polymerizable compds. having differences of refractive indexes which reflect the anisotropy .gtoreq.0.05 may be employed. The polymerizable compds. may be able to be oriented according to orientation controlling forces in the state before or partial polymn. The polymerizable compds. may contain rigid core sites bearing cyclic functional groups and chain terminals substituted with functional groups bearing polymerizable unsatd. bonds. The polymerizable compds. may have frameworks like those of liq. crystal materials. The retarders bear unsatd. bonds which can contribute to polymn. and, next to the bonds, sites of ensembles of functional groups bearing conjugated .pi.-bonds. Thus, a compn. contg. lauryl acrylate, p-PhC6H4CH:CH2, and Irgacure 369 was injected by capillarity in an open glass cell equipped with an orientation film, spacers, and a seal. By exposing to light with or without a mask, a pattern with fineness .ltoreq.10 .mu.m was obtained.

IT **254754-25-1**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(photopolymerizable compns. contg. initiators and **retarders** for photofunctional **films** with ultrafine patterns)

RN 254754-25-1 CAPLUS
CN 2-Propenoic acid, [1,1'-biphenyl]-4,4'-diylbis(oxy-12,1-dodecanediyl) ester, polymer with dodecyl 2-propenoate (9CI) (CA INDEX NAME)

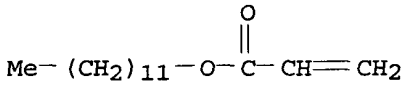
CM 1

CRN 254754-24-0
CMF C42 H62 O6



CM 2

CRN 2156-97-0
CMF C15 H28 O2



IC ICM C08F002-00
ICS C08F002-40; C08F002-48; C08F012-02; C08F020-10; G02B001-04; G02B001-10; G02B003-00; G02B005-02; G02B005-18; G03F007-004; G03H001-04

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37, 74

ST photopolymerizable compn polymn initiator photofunctional film; polymn retarder photopolymerizable compn photofunctional film; liq cryst polymer compn polymn retarder

IT Liquid crystal displays
(blend with photopolymerizable compns. contg. initiators and retarders for photofunctional films with ultrafine patterns)

IT Liquid crystals
(nematic; blend with photopolymerizable compns. contg. initiators and retarders for photofunctional films with ultrafine patterns)

IT Plastic films
(photopolymerizable compns. contg. initiators and retarders for photofunctional films with ultrafine patterns)

IT Photoimaging materials
(photopolymerizable; photopolymerizable compns. contg. initiators and retarders for photofunctional films with ultrafine patterns)

IT Polymerization catalysts
(photopolymn.; photopolymerizable compns. contg. initiators and retarders for photofunctional films with ultrafine patterns)

IT 254978-16-0, SP 8247
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(blend with photopolymerizable compns. contg. initiators and retarders

for photofunctional films with ultrafine patterns)

IT 2156-97-0, Lauryl acrylate **254754-25-1**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(photopolymerizable compns. contg. initiators and **retarders** for photofunctional **films** with ultrafine patterns)

IT 98-83-9, .alpha.-Methylstyrene, uses 530-48-3 827-54-3 2350-89-2 4433-13-0 46745-66-8 90826-32-7 254754-22-8 254754-23-9
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(retarders, photopolymerizable compns. contg. initiators and; blend with non-polymerizable, low mol.-wt. nematic liq. crystal material for photofunctional films with ultrafine patterns)

L25 ANSWER 36 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:752301 CAPLUS
DOCUMENT NUMBER: 132:17456
TITLE: **liquid-crystalline** orientation polymer **film**, manufacture of the **film**, and optical device using the **film**
INVENTOR(S): Ichimura, Kunihiro
PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11326638	A2	19991126	JP 1998-145100	19980511
JP 3163539	B2	20010508		

PRIORITY APPLN. INFO.: JP 1998-145100 19980511
OTHER SOURCE(S): MARPAT 132:17456

AB The **film** consists of a polymer **film** involving dichroic **photosensitive** structural unit, after obliquely irradiating linear polarized beam or nonpolarized beam, and a nonphotosensitive layer made of discotic or polymeric **liq. crystals** on the dichroic layer. The bottom layer may be latently **liq. cryst.** or **cryst.** polymer **film** involving dichroic **photosensitive** structural unit. The optical device, e.g., polarizer, optical waveguide, optical recording medium, etc., uses the **film**. The **film** is manufd. by obliquely irradiating the beam on the dichroic **photosensitive film** layer, heating, and forming the **liq. crystal** layer.

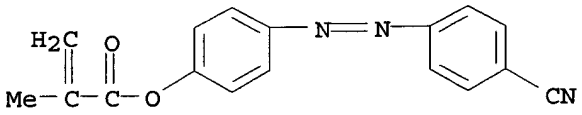
IT **213404-12-7P 213404-16-1P 224648-85-5P 227026-41-7P 251462-55-2P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**liq. cryst.** orientation **film** comprising

dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)

RN 213404-12-7 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 4-[(4-cyanophenyl)azo]phenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

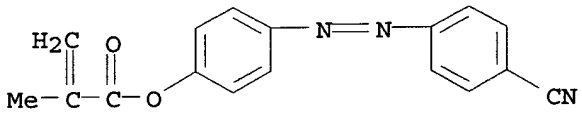
CRN 213404-10-5
CMF C17 H13 N3 O2



RN 213404-16-1 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 4-[(4-cyanophenyl)azo]phenyl ester, polymer with 2-propenenitrile (9CI) (CA INDEX NAME)

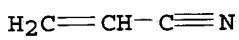
CM 1

CRN 213404-10-5
CMF C17 H13 N3 O2



CM 2

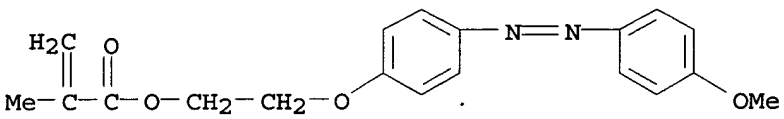
CRN 107-13-1
CMF C3 H3 N



RN 224648-85-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[4-[(4-methoxyphenyl)azo]phenoxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

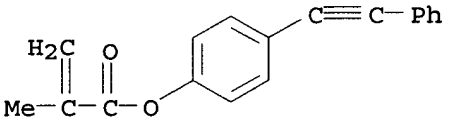
CRN 224648-82-2
CMF C19 H20 N2 O4



RN 227026-41-7 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 4-(phenylethynyl)phenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

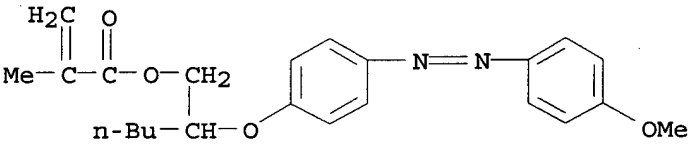
CRN 227026-39-3
CMF C18 H14 O2



RN 251462-55-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[4-[(4-methoxyphenyl)azo]phenoxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

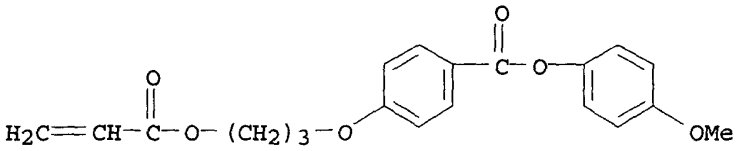
CRN 251462-54-1
CMF C23 H28 N2 O4



IT **118086-64-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(**liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
RN 118086-64-9 CAPLUS
CN Benzoic acid, 4-[3-[(1-oxo-2-propenyl)oxy]propoxy]-, 4-methoxyphenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118086-63-8
CMF C20 H20 O6



IC ICM G02B005-30
ICS B29D011-00; G02F001-1335
CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 38, 73
ST **liq cryst** orientation polymer **film**; dichroic **photosensitive** polymer layer laminate; discotic **liq crystal** layer laminate; polymeric **liq crystal** layer laminate; linear polarized beam irradn **liq crystal**
IT **Liquid crystals**
(discotic; **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
IT Dichroism
Liquid crystals, polymeric
Optical instruments
Polarizers
(**liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
IT 1849-26-9P, 4-Phenylethynylphenol
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(intermediate for monomer; in **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
IT 170788-72-4P 181373-51-3P **213404-12-7P 213404-16-1P 224648-85-5P 227026-41-7P 251462-55-2P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
IT 79194-31-3 **118086-64-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(**liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)
IT 26029-68-5
RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer from; for **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)

IT 536-74-3, Phenylacetylene 1927-95-3, p-Bromophenyl acetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer from; in **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)

IT 213404-10-5P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; for **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)

IT 227026-39-3P
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; in **liq. cryst.** orientation **film** comprising dichroic **photosensitive** bottom layer and discotic or polymeric **liq. crystal** layer for optical devices)

L25 ANSWER 37 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:559292 CAPLUS
DOCUMENT NUMBER: 132:167295
TITLE: High performance **photosensitive** polymers in thin **films** and their abilities to align **liquid-crystals** on the surface
AUTHOR(S): Ree, Moonhor; Kim, Sang Il; Lee, Seung Woo
CORPORATE SOURCE: Department of Chemistry and Polymer Research Institute, University of Science & Technology (POSTECH), Pohang, 790-784, S. Korea
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1999), 40(2), 1223-1224
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

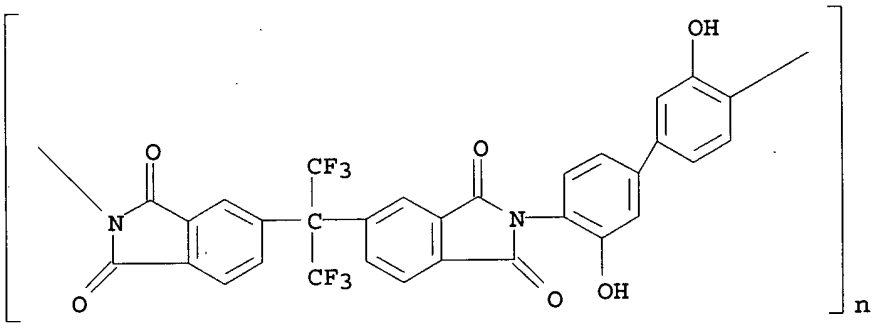
AB New **photosensitive** polymers with cinnamate and coumarin side groups were synthesized, and their photoreactivity and photoalignment characteristics were detd. The basic properties of rubbing processability of the polymers in **films**, and the alignment and pretilt behavior of **liq. crystal** mols. were investigated with varying UV exposure dose, UV polarization, and rubbing d.

IT **258833-33-9**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with

liq.-crystals)
RN 258833-33-9 CAPLUS
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(3,3'-dihydroxy[1,1'-biphenyl]-4,4'-diyl)], 3-phenyl-2-propenoate (ester) (9CI) (CA INDEX NAME)

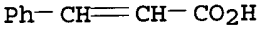
CM 1

CRN 165054-79-5
CMF (C31 H14 F6 N2 O6)n
CCI PMS



CM 2

CRN 621-82-9
CMF C9 H8 O2



IT **258833-32-8P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)
RN 258833-32-8 CAPLUS
CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-diamino[1,1'-biphenyl]-3,3'-diol, 3-phenyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 621-82-9
CMF C9 H8 O2

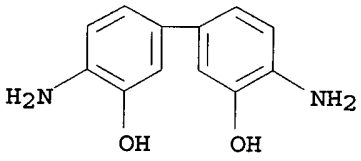
Ph— CH═ CH— CO_2H

CM 2

CRN 165054-78-4
CMF (C19 H6 F6 O6 . C12 H12 N2 O2)x
CCI PMS

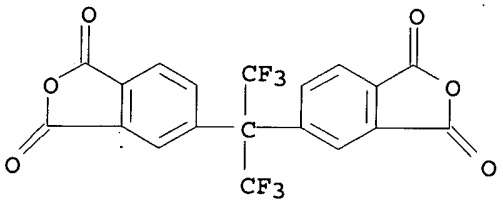
CM 3

CRN 2373-98-0
CMF C12 H12 N2 O2



CM 4

CRN 1107-00-2
CMF C19 H6 F6 O6



CC 38-3 (Plastics Fabrication and Uses)
ST **photosensitive** polymer thin **film liq crystal**
IT Polyimides, properties
Polyimides, properties
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(fluorine-contg.; synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)
IT Plastic **films**
(**photosensitive**; synthesis and properties of high performance

photosensitive polymers in thin **films** and their surface alinement with **liq.-crystals**)

IT Fluoropolymers, properties
Fluoropolymers, properties
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(polyimide-; synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)

IT Light-sensitive materials
Liquid crystals
UV radiation
(synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)

IT 91963-63-2D, 7-(2-Hydroxyethoxy)-4-methylcoumarin, reaction products with fluorinated polyimides 165054-78-4D, reaction products with (hydroxyethoxy)methylcoumarin **258833-33-9**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)

IT 165054-79-5DP, reaction products with (hydroxyethoxy)methylcoumarin **258833-32-8P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**
(synthesis and properties of high performance **photosensitive** polymers in thin **films** and their surface alinement with **liq.-crystals**)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 38 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:804087 CAPLUS
DOCUMENT NUMBER: 130:59183
TITLE: Method for producing phase retarder film
INVENTOR(S): Namioka, Makoto
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 883016	A1	19981209	EP 1998-110347	19980605
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11052134	A2	19990226	JP 1998-158064	19980605

PRIORITY APPLN. INFO.: JP 1997-149267 19970606

AB The present invention provides a method for producing a phase retarder film wherein a resin layer having at least one kind of photoreactive substituent is irradiated with parallel beams. The method of the present invention enables the prodn. of a large-area phase retarder film with ease as compared with conventional methods wherein irradn. of linearly polarized UV rays, electrostatic field, or magnetostatic field is conducted, and hence it is suitable for the industrial application.

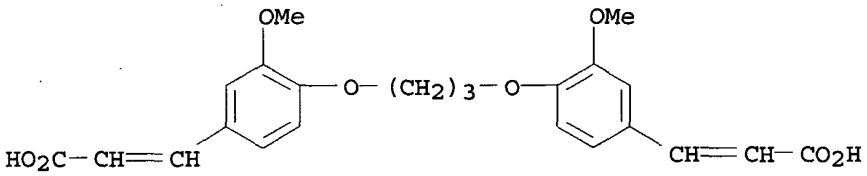
IT **217458-08-7P 217458-09-8P**
RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. and UV irradn. in prepg. phase **retarder films** for liq.-crystal display devices)

RN 217458-08-7 CAPLUS

CN 2-Propenoic acid, 3,3'-[1,3-propanediylbis[oxy(3-methoxy-4,1-phenylene)]]bis-, polymer with piperazine (9CI) (CA INDEX NAME)

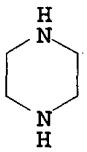
CM 1

CRN 101913-30-8
CMF C23 H24 O8



CM 2

CRN 110-85-0
CMF C4 H10 N2

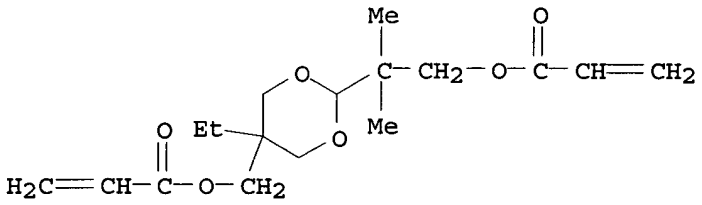


RN 217458-09-8 CAPLUS

CN 2-Propenoic acid, [2-[1,1-dimethyl-2-[(1-oxo-2-propenyl)oxy]ethyl]-5-ethyl-1,3-dioxan-5-yl]methyl ester, polymer with 4,4'-diiodo-1,1'-biphenyl (9CI) (CA INDEX NAME)

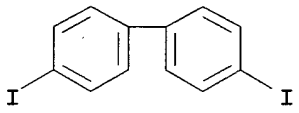
CM 1

CRN 87320-05-6
CMF C17 H26 O6



CM 2

CRN 3001-15-8
CMF C12 H8 I2



IC ICM G02F001-1335
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST phase retarder film liq crystal display; photoreactive resin irradn phase retarder film
IT Liquid crystal displays
(UV irradn. of photoreactive resins in prepn. of phase retarder films for)
IT 24968-99-8P 217458-04-3P 217458-06-5P **217458-08-7P** **217458-09-8P**
RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. and UV irradn. in prepg. phase **retarder films** for liq.-crystal display devices)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:728659 CAPLUS
DOCUMENT NUMBER: 130:18968
TITLE: Aligning agent for **liquid crystal**
INVENTOR(S): Endou, Hideyuki; Nihira, Takayasu; Fukuro, Hiroyoshi
PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9849596	A1	19981105	WO 1998-JP1955	19980428
W: CN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
TW 461980	B	20011101	TW 1998-87106448	19980427
EP 980016	A1	20000216	EP 1998-917723	19980428
R: DE, FR, GB, IT, NL				
JP 11015001	A2	19990122	JP 1998-120941	19980430
US 6274695	B1	20010814	US 1999-403766	19991101

PRIORITY APPLN. INFO.: JP 1997-113002 A 19970430
WO 1998-JP1955 W 19980428

AB An aligning agent for **liq. crystals** which is for use in a method in which a thin polymer **film** formed on a substrate is irradiated with polarized UV or electron beams from a given direction based on the plane of the substrate and this substrate is used to align a **liq. crystal** without rubbing the substrate, characterized by comprising a polymer contg. photochem. reactive groups in the polymer backbone and having a oxide glass transition point of 200 .degree.C or higher.

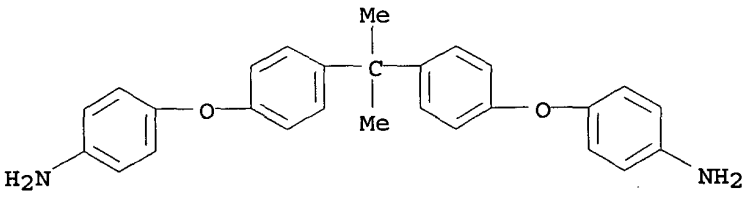
IT **215736-21-3P**, 2,2-Bis(4-aminophenoxyphenyl)propane-muconic acid copolymer **215736-22-4P 215736-25-7P**
215736-26-8P 215736-27-9P 215736-30-4P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(prepd. as **liq. crystal** aligning agent)

RN 215736-21-3 CAPLUS

CN 2,4-Hexadienedioic acid, polymer with 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

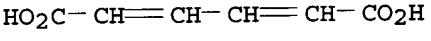
CM 1

CRN 13080-86-9
CMF C27 H26 N2 O2



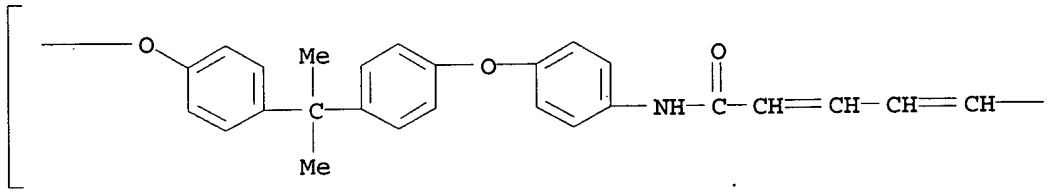
CM 2

CRN 505-70-4
CMF C6 H6 O4

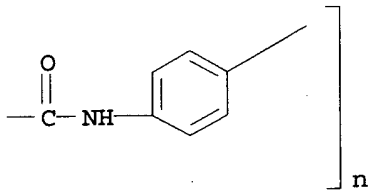


RN 215736-22-4 CAPLUS
CN Poly[oxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy-1,4-phenyleneimino(1,6-dioxo-2,4-hexadiene-1,6-diyl)imino-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



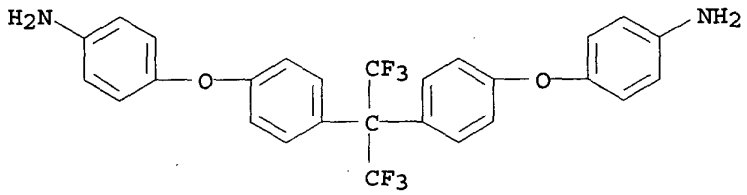
PAGE 1-B



RN 215736-25-7 CAPLUS
CN 2,4-Hexadienedioic acid, polymer with 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

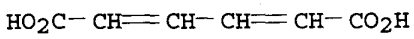
CM 1

CRN 69563-88-8
CMF C27 H20 F6 N2 O2



CM 2

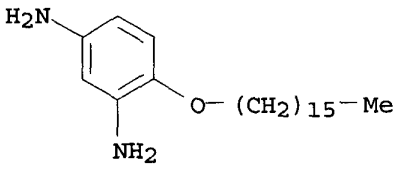
CRN 505-70-4
CMF C6 H6 O4



RN 215736-26-8 CAPLUS
CN 2,4-Hexadienedioic acid, polymer with 4-(hexadecyloxy)-1,3-benzenediamine and 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

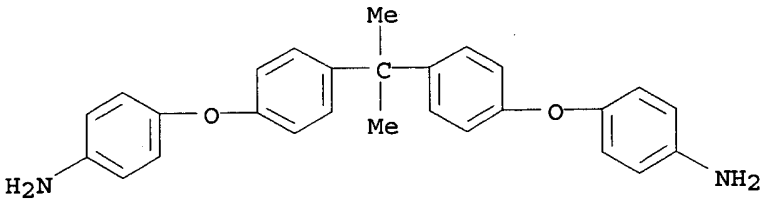
CM 1

CRN 137819-03-5
CMF C22 H40 N2 O



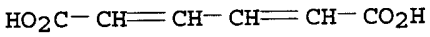
CM 2

CRN 13080-86-9
CMF C27 H26 N2 O2



CM 3

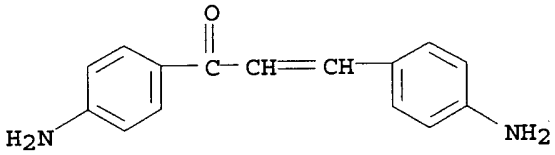
CRN 505-70-4
CMF C6 H6 O4



RN 215736-27-9 CAPLUS
CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with 1,3-bis(4-aminophenyl)-2-propen-1-one (9CI) (CA INDEX NAME)

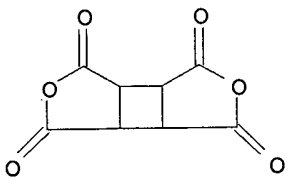
CM 1

CRN 84115-81-1
CMF C15 H14 N2 O



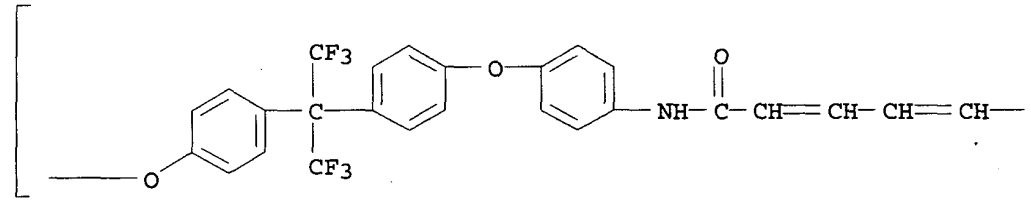
CM 2

CRN 4415-87-6
CMF C8 H4 O6

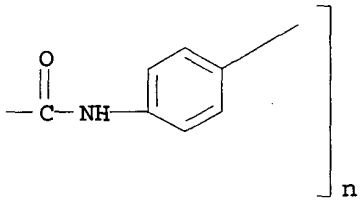


RN 215736-30-4 CAPLUS
CN Poly[oxy-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenyleneoxy-1,4-phenyleneimino(1,6-dioxo-2,4-hexadiene-1,6-diyl)imino-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G02F001-1337
ICS C08G069-26; C08G073-10
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photosensitive** polymer aligning agent **liq crystal**
IT **Liquid crystals**
(**photosensitive** polymeric aligning agent for **liq. crystal**)
IT Polyamic acids
Polyamides, preparation
Polyimides, preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(prepd. as **liq. crystal** aligning agent)
IT 215868-82-9P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(epd. as **liq. crystal** aligning agent)
IT 214919-26-3P 214919-29-6P **215736-21-3P**, 2,2-Bis(4-aminophenoxyphenyl)propane-muconic acid copolymer **215736-22-4P**
215736-23-5P 215736-24-6P **215736-25-7P** **215736-26-8P**
215736-27-9P 215736-28-0P 215736-29-1P **215736-30-4P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)

(prepd. as **liq. crystal** aligning agent)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 40 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:317141 CAPLUS
DOCUMENT NUMBER: 125:99761
TITLE: **Photosensitive** characteristics of poly(methacrylates) containing benzylidenephthalimidine moieties on the side chain
AUTHOR(S): Hae, Suh Dong; Hayashi, Yuko; Kudo, Kazuaki; Ichimura, Kunihiro
CORPORATE SOURCE: Res. Laboratory of Resources Utilization, Tokyo Inst. of Technology, Yokohama, 226, Japan
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1996), 280, 97-102
CODEN: MCLCE9; ISSN: 1058-725X
PUBLISHER: Gordon & Breach
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Photosensitive** polymethacrylates having benzylidenephthalimidine(BPI) moiety on the side chains were synthesized. Upon photoirradn. of the polymer **film**, there occurred two kinds of photoreactions; the E/Z photoisomerization and [2+2] cycloaddn. The cycloaddn. of BPI units of polymers resulted in the crosslinking of the polymer chains. The quantum yield for the photocrosslinking reaction was estd. from gelation expt. Irradn. of the **film** with linearly polarized UV light induced a dichroism of BPI. Linearly polarized UV light irradn. of a nematic **liq. crystals** (LCs) cell assembled with a glass plate surface-modified with a poly[N-(2-methacryloyloxy)ethyl-p-methoxy benzylidenephthalimidine] **film** brought about the homogeneous alignment.

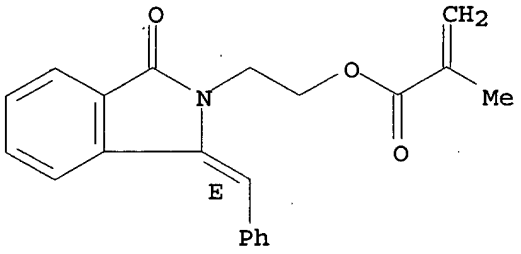
IT **178969-19-2P 178969-20-5P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; PROC (Process); RACT (Reactant or reagent)
(photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for photocontrol of **liq. crystal** alignment)

RN 178969-19-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[1,3-dihydro-1-oxo-3-(phenylmethylene)-2H-isoindol-2-yl]ethyl ester, (E)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

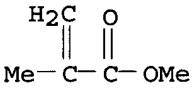
CRN 178969-17-0
CMF C21 H19 N O3

Double bond geometry as shown.



CM 2

CRN 80-62-6
CMF C5 H8 O2

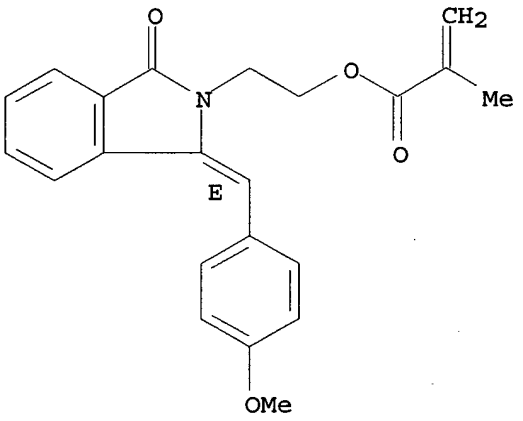


RN 178969-20-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[1,3-dihydro-1-[(4-methoxyphenyl)methylene]-3-oxo-2H-isoindol-2-yl]ethyl ester, (E)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

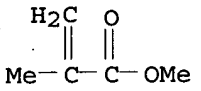
CRN 178969-18-1
CMF C22 H21 N O4

Double bond geometry as shown.



CM 2

CRN 80-62-6
CMF C5 H8 O2



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photochem **photosensitive** methacrylate polymer benzylidenephthalimidine pendant; **liq crystal** alignment methacrylate polymer benzylidenephthalimidine; photoalignment **liq crystal** methacrylate polymer benzylidenephthalimidine

IT Photolysis
(photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for **liq. crystal** alignment)

IT Cycloaddition reaction
([2+2], photochem.; photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for **liq. crystal** alignment)

IT Isomerization
(cis-trans, photochem., photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for **liq. crystal** alignment)

IT Optical imaging devices
(electrooptical **liq.-crystal**, photocontrol of alignment of **liq. crystal** by **photosensitive** methacrylate polymers contg. benzylidenephthalimidine side chain)

IT Crosslinking
(photochem., photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for **liq. crystal** alignment)

IT **178969-19-2P 178969-20-5P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; PROC (Process); RACT (Reactant or reagent)
(photochem. of methacrylate polymers contg. benzylidenephthalimidine side chain for photocontrol of **liq. crystal** alignment)

IT 152556-04-2, NPC-02
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(photocontrol of alignment of **liq. crystal** by **photosensitive** methacrylate polymers contg. benzylidenephthalimidine side chain)

IT 178969-17-0P 178969-18-1P
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and polymn. with Me methacrylate)

IT 178969-15-8P 178969-16-9P
RL: PNU (Preparation, unclassified); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and reaction with methacryloyl chloride)
IT 920-46-7, Methacryloyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with benzylidenephthalimidine derivs.)

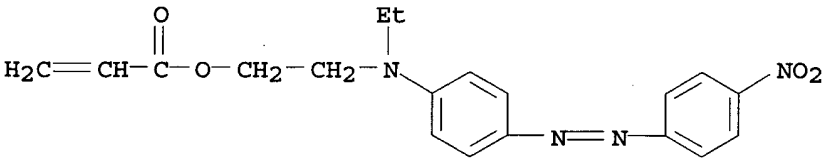
L25 ANSWER 41 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:422311 CAPLUS
DOCUMENT NUMBER: 121:22311
TITLE: Azo polymers for reversible optical storage. III. Effect of film thickness on net phase retardation and writing speed
AUTHOR(S): Rochon, P.; Bissonnette, D.; Natansohn, A.; Xie, S.
CORPORATE SOURCE: Dep. Phys., R. Mil. Coll. Canada, Kingston, ON, K7K 5L0, Can.
SOURCE: Applied Optics (1993), 32(35), 7277-80
CODEN: APOPAI; ISSN: 0003-6935
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The optical writing phenomenon obsd. on azo arom.-contg. polymer thin films exhibits a writing rate proportional to the intensity of the writing beam. This property of the mechanisms for optically inducing dichroism and birefringence results directly in nonlinear optical behavior in the thin film. The net phase retardation obtainable and the writing rates are functions of the thin-film thickness that reflect this nonlinear behavior.

IT **139427-10-4**
RL: USES (Uses)
(optical reversible recording in film of, effect of **film** thickness on net phase **retardation** and writing speed in)
RN 139427-10-4 CAPLUS
CN 2-Propenoic acid, 2-[ethyl[4-[(4-nitrophenyl)azo]phenyl]amino]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 13695-46-0
CMF C19 H20 N4 O4



CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST azo polymer reversible optical storage recording

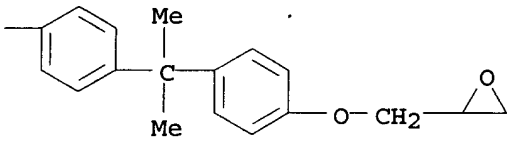
IT Optical nonlinear property
(of azo polymer optical recording film, effect of film thickness on net phase retardation and writing speed in)
IT Memory devices
(holog., azo polymer film for, effect of film thickness on net phase retardation and writing speed in)
IT Holography
(memory devices, azo polymer film for, effect of film thickness on net phase retardation and writing speed in)
IT Recording materials
(optical, reversible, in azo polymers, effect of film thickness on net phase retardation and writing speed in)
IT Dichroism
(photoinduced, in azo polymer optical recording film, effect of film thickness on net phase retardation and writing speed in)
IT **139427-10-4**
RL: USES (Uses)
(optical reversible recording in film of, effect of **film** thickness on net phase **retardation** and writing speed in)

L25 ANSWER 42 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:661295 CAPLUS
DOCUMENT NUMBER: 117:261295
TITLE: Polyamide alignment **film** for **liquid crystal** display devices
INVENTOR(S): Okunoyama, Teru
PATENT ASSIGNEE(S): Toshiba Chemical K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04062522	A2	19920227	JP 1990-175063	19900702
JP 2841348	B2	19981224		

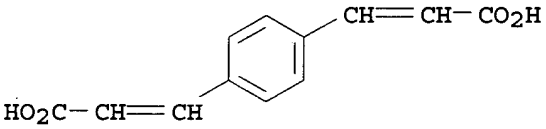
PRIORITY APPLN. INFO.: JP 1990-175063 19900702
GI

PAGE 1-B



CM 2

CRN 16323-43-6
CMF C12 H10 O4

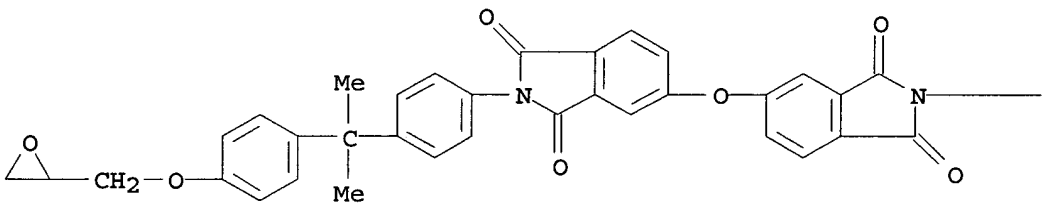


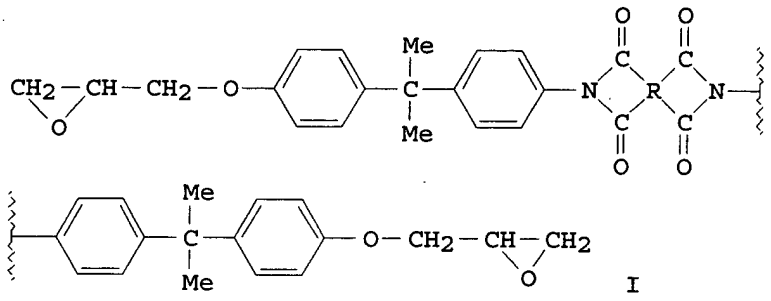
RN 143986-68-9 CAPLUS
CN 2-Propenoic acid, 3,3'-(1,4-phenylene)bis-, polymer with 5,5'-oxybis[2-[4-[1-methyl-1-[4-(oxiranylmethoxy)phenyl]ethyl]phenyl]-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 143986-67-8
CMF C52 H44 N2 O9

PAGE 1-A





I

AB The **film** is made by the steps of: prepg. a UV-curable polymer by polymg. a mixt. comprising a **photosensitizer**, a photoinitiator, phenylenediacrylic acid, and I [R = C6H2, C6H3C6H3, C6H3XC6H3; X = CO, O, SO2, C(CF3)2]; coating a sol. of the polymer on a substrate having an electrode layer; forming a **film** layer by UV-curing the coating; and rubbing the unaligned **film** unidirectionally. The **film** retains a long-life aligned ordering at elevated temps. and can be employed on a flexing substrate.

IT **143986-66-7P 143986-68-9P 144012-01-1P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(prepn. and use of, as polyamide alignment **film**, for **liq. crystal** display devices)

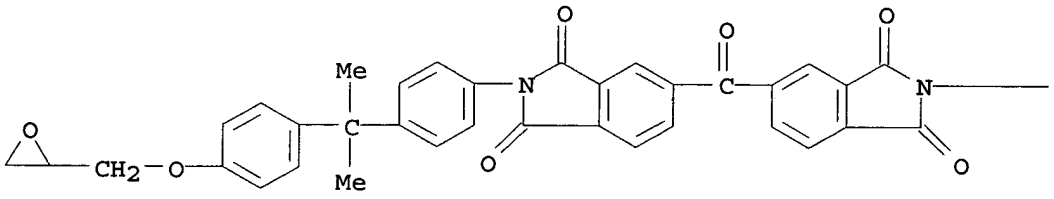
RN 143986-66-7 CAPLUS

CN 2-Propenoic acid, 3,3'-(1,4-phenylene)bis-, polymer with 5,5'-carbonylbis[2-[4-[1-methyl-1-[4-(oxiranylmethoxy)phenyl]ethyl]phenyl]-1H-isoindole-1,3(2H)-dione] (9CI) (CA INDEX NAME)

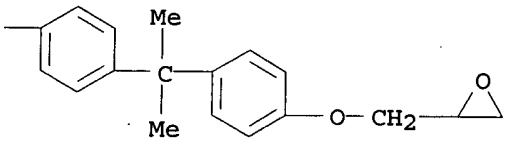
CM 1

CRN 143986-65-6
CMF C53 H44 N2 O9

PAGE 1-A

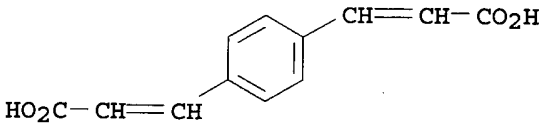


PAGE 1-B



CM 2

CRN 16323-43-6
CMF C12 H10 O4

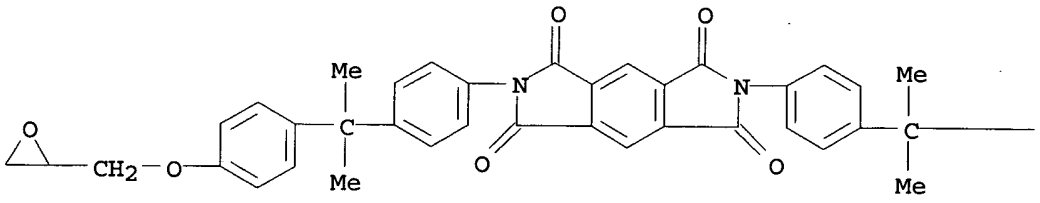


RN 144012-01-1 CAPLUS
CN 2-Propenoic acid, 3,3'-(1,4-phenylene)bis-, polymer with 2,6-bis[4-[1-methyl-1-[4-(oxiranylmethoxy)phenyl]ethyl]phenyl]benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone (9CI) (CA INDEX NAME)

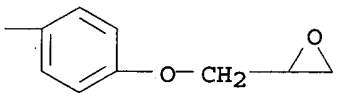
CM 1

CRN 144012-00-0
CMF C46 H40 N2 O8

PAGE 1-A

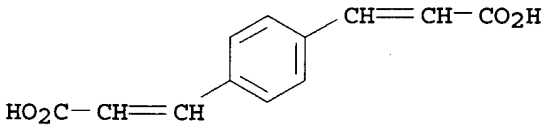


PAGE 1-B



CM 2

CRN 16323-43-6
CMF C12 H10 O4



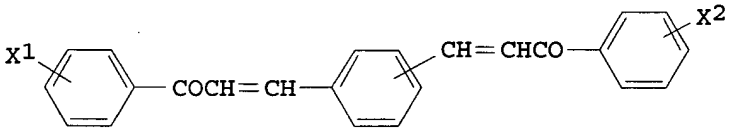
IC ICM G02F001-1337
ICS G09F009-30
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
ST polyamide alignment **film liq crystal** display
IT Polyimides, uses
RL: **IMF (Industrial manufacture); PREP (Preparation)**
(alignment **films**, for **liq. crystal** display devices, manuf. of)
IT Optical imaging devices
(electro-, **liq.-crystal**, polyamide alignment **films**, manuf. of)
IT **143986-66-7P 143986-68-9P 144012-01-1P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(prepn. and use of, as polyamide alignment **film**, for **liq. crystal** display devices)

L25 ANSWER 43 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:425053 CAPLUS
DOCUMENT NUMBER: 113:25053
TITLE: Bis(benzoylvinyl)benzenes, their manufacture, resin compositions containing them, and cured products thereof
INVENTOR(S): Nishikawa, Akio; Koyama, Toru; Asano, Hideki; Narahara, Toshikazu
PATENT ASSIGNEE(S): Hitachi, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

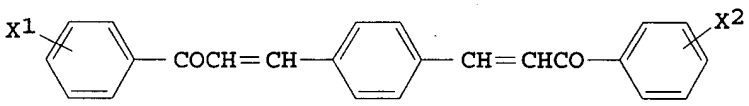
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01056643	A2	19890303	JP 1987-212691	19870828
JP 07096519	B4	19951018		

PRIORITY APPLN. INFO.: JP 1987-212691 19870828
GI



I



II

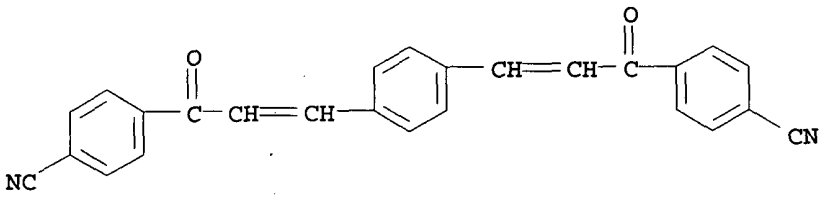
AB The title compds. (I; X1, X2 = NHR, OR, CN, C.tplbond.CH, unsatd. cyclic imide linked via N; R= H, CN) are prepd. and crosslinked in polymer compns. Maleic anhydride was added to II (X1 = X2 = NH2) in Me2CO at <5.degree. with stirring and the mixt. treated with Ac2O contg. KOAc to give II (X1 = X2 = maleimido), which (100 parts) was mixed with 2,2-bis[4-(4-maleimidophenoxy)phenyl]propane 100, quartz powder 7, stearic acid 2, and carbon black 1 part at 150-170.degree. to give a crosslinked polymer with glass-transition temp. 225.degree., flexural strength 535 kg/cm2 at 180.degree. and retaining 100% of that strength for 30 days at 200.degree.. Similarly prepd. were 3 addnl. I, which were also copolymd. with bisphenol A derivs.

IT **124036-40-4**
RL: USES (Uses)
(polyester **film** coated with, in manuf. of **liq.** **crystal** display devices)

RN 124036-40-4 CAPLUS
CN Benzonitrile, 4,4'-[1,4-phenylenebis(1-oxo-2-propene-3,1-diyl)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 124036-39-1
CMF C26 H16 N2 O2



IC ICM C07C049-796
ICS C07C049-835; C07C097-10; C07C121-76; C07C125-08; C07D207-448; C07D207-452; C07D209-76; C08F002-48; C08F016-36; C08F022-40; C08F246-00; G03C001-68; G03C001-71

CC 37-2 (Plastics Manufacture and Processing)
Section cross-reference(s): 25

ST benzoylvinylbenzene prepn crosslinking agent; **photosensitive** polymer intermediate bisbenzoylvinylbenzene; heat resistance polymer compn

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(crosslinking agents for, bis[(aminobenzoyl)vinyl]benzene derivs. as)

IT Optical imaging devices
(**liq.-crystal**, poly[bis[(cyanobenzoyl)vinyl]benzene]-coated poly(ethylene terephthalate) **films** in manuf. of)

IT Crosslinking agents
(photochem., bis(aminobenzoylvinyl)benzene derivs. as)

IT Electric circuits
(printed, multilayer, manuf. of, insulating varnish for, poly[bis[(maleimidobenzoyl)vinyl]benzene] for)

IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(unsatd., crosslinking agents for, bis[(aminobenzoyl)vinyl]benzene derivs. as)

IT 9002-84-0
RL: USES (Uses)
(bis[(ethynylbenzoyl)vinyl]benzene polymer blends, graphite-contg., as sliding surface for porous metal plates)

IT 108-31-6, Maleic anhydride, reactions 826-62-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with bis[(aminobenzoyl)vinyl]benzene)

IT 110432-73-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with maleic anhydride)

IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(**films**, poly[bis[(cyanobenzoyl)vinyl]benzene]-coated, in manuf. of **liq. crystal** display devices)

IT 124011-21-8 124086-98-2
RL: USES (Uses)
(glass cloth prepregs, lamination of)

IT 124036-41-5 124086-99-3
RL: USES (Uses)
(insulating varnish, in manuf. of multilayer printed circuits)

IT 123991-09-3DP, polymers with novolak epoxy resins 124086-96-0P
124086-97-1P 124124-76-1P 124124-77-2P 124307-89-7P
RL: PEP (Physical, engineering or chemical process); **PREP (Preparation)**; PROC (Process)
(manuf. of heat-resistant, with high flexural strength)

IT 124036-43-7P
RL: **PREP (Preparation)**
(manuf. of photocurable)

IT 124036-38-0
RL: USES (Uses)
(poly(tetrafluoroethylene) blends, graphite-contg., as sliding surface for porous metal plates)

IT **124036-40-4**
RL: USES (Uses)
(polyester **film** coated with, in manuf. of **liq. crystal** display devices)

IT 7782-42-5, Graphite, uses and miscellaneous
RL: USES (Uses)
(polymer blends contg., as sliding surface for porous metal plates)

IT 124802-76-2
RL: USES (Uses)
(potting compn., for one-megabit D-RAM chip)

IT 123991-08-2P
RL: **PREP (Preparation)**
(prepn. of)

IT 123991-07-1P 123991-09-3P 124011-36-5P 124029-80-7P
RL: **PREP (Preparation)**
(prepn. of, as crosslinking agent)

IT 506-68-3, Cyanogen bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis[(aminobenzoyl)vinyl]benzene)

L25 ANSWER 44 OF 44 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:497848 CAPLUS
DOCUMENT NUMBER: 111:97848
TITLE: Synthesis and thermal properties of **photosensitive** polyacrylic systems with cinnamic acid-containing side chains and their use in composite membranes
AUTHOR(S): Koch, Thomas; Ritter, Helmut; Buchholz, Norbert; Knoechel, Friedrich
CORPORATE SOURCE: Bergische Univ.-Gesamthochsch., Wuppertal, D-5600, Fed. Rep. Ger.
SOURCE: Makromolekulare Chemie (1989), 190(6), 1369-77
CODEN: MACEAK; ISSN: 0025-116X
DOCUMENT TYPE: Journal
LANGUAGE: German

AB The synthesis of comblike polymers contg. cinnamic acid derivs. in the side chains was described. The disappearance of thermal transitions after UV irradn. of the polymer samples was demonstrated by DSC measurements in the case of **liq.-cryst.** poly[4-propoxyphenyl 4-(6-acryoyloxyhexyloxy)cinnamate] and side-chain crystallizable

4-(6-acryloyloxyhexyloxy)cinnamic acid-hexadecyl acrylate copolymer. A significant influence of UV irradn. on the permeation activation energy of BuOH through polyamide composite membranes contg. a **film** of the **photosensitive** comblike polymers was obsd.

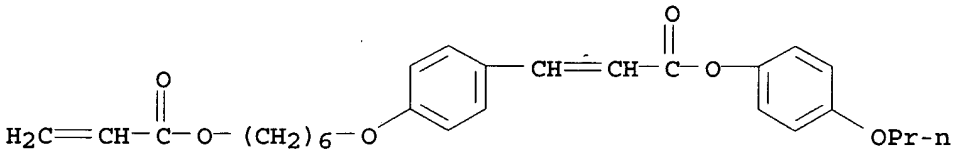
IT **122276-53-3P**, Poly[4-propyloxyphenyl 4-(6-acryloyloxyhexyloxy)cinnamate]
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(**liq.-cryst.**, prepn. and characterization of)

RN 122276-53-3 CAPLUS

CN 2-Propenoic acid, 3-[4-[[6-[(1-oxo-2-propenyl)oxy]hexyl]oxy]phenyl]-, 4-propoxyphenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 122246-56-4
CMF C27 H32 O6



CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 37, 75

ST cinnamic acid polyacrylate **photosensitivity**; polypropoxyphenyl acryloyloxyhexyloxycinnamate **liq crystal**; butanol permeation polyamide polyacrylate membrane

IT **Liquid crystals**
(cinnamic acid side chain-contg. polyacrylate, prepn. and characterization of)

IT Light-sensitive materials
(membranes, arom. polyamide-**liq. cryst.** polyacrylate composite, prepn. and thermal properties of)

IT Permeability and Permeation
(of butanol, through polyamide-cinnamic acid side chain-contg. polyacrylate composite membranes)

IT Heat of transition
(of cinnamic acid side chain-contg. polyacrylates)

IT Polymer morphology
(of **liq.-cryst.** cinnamic acid side chain-contg. polyacrylates)

IT Polyamides, uses and miscellaneous
RL: USES (Uses)
(poly(phenyleneisophthalamide), composite membranes with cinnamic acid side chain-contg. polyacrylates, permeation of butanol through)

IT 24938-60-1, Isophthalic acid-m-phenylenediamine copolymer, SRU
25035-33-0, Isophthalic acid-m-phenylenediamine copolymer
RL: USES (Uses)
(composite membranes with cinnamic acid side group-contg.

polyacrylates, permeation of butanol through)

IT **122276-53-3P**, Poly[4-propyloxyphenyl 4-(6-acryloyloxyhexyloxy)cinnamate]
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(**liq.-cryst.**, prepn. and characterization of)

IT 71-36-3, 1-Butanol, properties
RL: PRP (Properties)
(permeation of, through polyamide-polyacrylate composite membranes)

IT 122276-51-1P, Poly[4-(6-acryloyloxyhexyloxy)cinnamic acid] 122276-52-2P
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(prepn. and characterization of)

IT 122246-55-3P 122246-56-4P, 4-Propoxyphenyl 4-(6-acryloyloxyhexyloxy)cinnamate
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and polymn. of)

IT 122246-54-2P, 4-(6-Hydroxyhexyloxy)cinnamic acid
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(prepn. and reaction of, with acryloyl chloride)

IT 18979-50-5, Hydroquinonemonopropyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (acryloyloxyhexyloxy)cinnamic acid)

IT 814-68-6, 2-Propenoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (hydroxyhexyloxy)cinnamic acid)

IT 7400-08-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chlorohexanol)

IT 2009-83-8, 6-Chlorohexanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxycinnamic acid)